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THE BUILDER

A RECORD OF ARCHITECTURE AND CONSTRUCTION.

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COMPREHENSIVE STREET DESIGN.

THE architect, as well as the amateur who views this subject with disdain, has little sympathy for schemes of rebuilding projected to secure the amenities of cities. The matter is no longer one of controversy, for we have long since passed the stage when the body of opinion voted for individualistic freedom in design as opposed to well-regulated systems of consistent architecture. Neither can it be put forward that the present crisis is inopportune for such theories to be mooted. The discipline of the war points the definite moral that a new order of things must be conceived, and speedily, for with the return of peace and the consequent influx of labour only drastic reorganisation can prevent a repetition of the chaos which for the past fifty years has disfigured the streets of London and the cities of the provinces. The destruction of Sackville-street, Dublin, shows how intimately the conflagration of Europe has affected a capital city well within our insular boundaries. There are other instances which will be referred to *in seriatim*. It is just as simple for local authorities to frame certain regulations governing the height and material of street frontages as it is to regulate the thickness of walls and the observance of sanitary rules. This point could be carried further, especially where existing frontages of 300 ft. are about to be rebuilt. It will be argued that designs prepared by an architect for a portion of such a frontage would not be accepted by another called upon to complete the block, or that a building required for a warehouse could never be worked into a portion of a composition in which the majority of premises would be designed as offices. This theory is false, because it is evident that the conditions of city life have automatically segregated diverse interests into different quarters. There is a shipping centre, where the offices of the shipping companies are found; a bankers' centre, such as Lombard-street; shopping centres, similar to Cheapside, the Strand, Regent-street, Bond-street; merchants' centres, like Moorgate-street and the tributaries near Cheapside; manufacturers' centres, like the ill-favoured Queen Victoria-street; and engineering thoroughfares akin to Victoria-street, Westminster. The foregoing list does not include every category; it alone attempts to point out the rough division ordained by the passing of years, as well as the necessity for certain industries to be near the heart of the City and at the same time within easy communication the one with the other. In the City and the West-end there are several well-designed thoroughfares, planned during the early part of the nineteenth century, the refronting of which is becoming a matter for immediate consideration. It is neither desirable nor possible to preserve the conventional stucco façades of these streets for all time, but surely it is within the scope of sound politics to ensure that these respectable buildings are replaced by others of improved interest, and that a street distinguished in the past for ordered regularity in architecture should, despite the passing fashion, retain some part of the tradition with which its use has been associated. The refronting of the north side of Moorgate-street is shortly to be undertaken, and unless the City Architect seriously considers the matter with the Corporation, determining the height of cornices, insisting on regularity of sky-line, and the adoption of a uniform façade for the whole block, the aspect of this restful street will be changed for the worse.

In the first place, owing to the absence of a controlling body to whom all designs can be referred, the first architect on the scene, commissioned to treat a small portion of the frontage, has it in his power to make or mar the aspect of a street. Now, it should be possible in such a case, without setting in motion the whole machinery for an architectural competition—competitions of this kind being notoriously unproductive of good designs—for the City authority to ask the architect first called in to treat a portion of an extensive block to submit a comprehensive design for the whole frontage. The City authorities would have the right to approve or censure the design, to call upon architects and artists of renown for an opinion on the merits or defects of the proposition, and they would then be in a position to judge, from elevational and perspective drawings, what the street would look like when completed. The interpretation of such an idea as the one suggested above would be broadened to meet different cases. A landlord owning three sites adjacent to one another would, when circumstances permitted, rebuild to the larger scale, care being taken to observe the height of the main cornice settled by the authorities and to complement the main lines of the adjoining buildings. Notwithstanding the desirability for control and co-ordination in this important question of street design, there are instances, particularly in London, where the individual interests are too opposed to be subjected to correlation. High Holborn and Oxford-street are cases in point. New Oxford-street was designed by Pennethorne into architectural blocks, and is happily outside the controversy.

London does not suffer from a poverty of interest; the chief fault is the ancient City is over-dressed. There is such a variety of picturesque attributes all clamouring at once for notice; such a plethora of advertisements, as well as a variety of coloured building materials to confuse and detract from the dignity a capital city should exhibit. We do not wish to see London a cheap imitation of Paris, but if our authorities could only be brought together to check bad taste and illiteracy in architectural design the beneficial effect on the community would be an advantage.

It is interesting to learn that the Irish Institute of Architects convened a meeting directly the rebellion was under control to go into the question of rebuilding Sackville-street, Dublin. A resolution was passed against the piecemeal reconstruction of the thoroughfare, and demands were made regarding a general scheme. There was only one dissentient in favour of each architect designing in his own sweet way. It is known that the Post Office can be restored, and this is the only building of value in the street. It is also well within the scope of the reconstruction to remove Nelson's Pillar to a new site at the head of the street, and not leave it in its present position, where it cuts off the north side of the city. There are many difficulties in the way of our Irish friends: cost, co-operation of the architects, party walls and boundaries, resentments and jealousies; but there is still a chance that something monumental can be achieved and the reputation of the famous street enhanced by reason of its new architecture. The future will witness a complete change of opinion regarding the *laissez faire* of civic bodies to the architectural amenities of cities. No longer will it be sufficient for City Fathers to boast of extravagant lighting, drainage, and tramway schemes if the conventional scenery of the city is left to take care of itself. Compared with the architectural triumphs of other lands England is sadly deficient, and, save for the glories of the past which adorn the metropolis, London itself is provincial to the core.

We do not intend to close this article in the key of a Jeremiad, for much good work has been done and is being done to rectify past errors. There remains, however, an urgent need for closer surveillance over the treatment of street façades and the restoration of conditions which will make it possible to once more follow the example of the great architects of the eighteenth century.

C

NOTES.

Charing Cross Bridge.

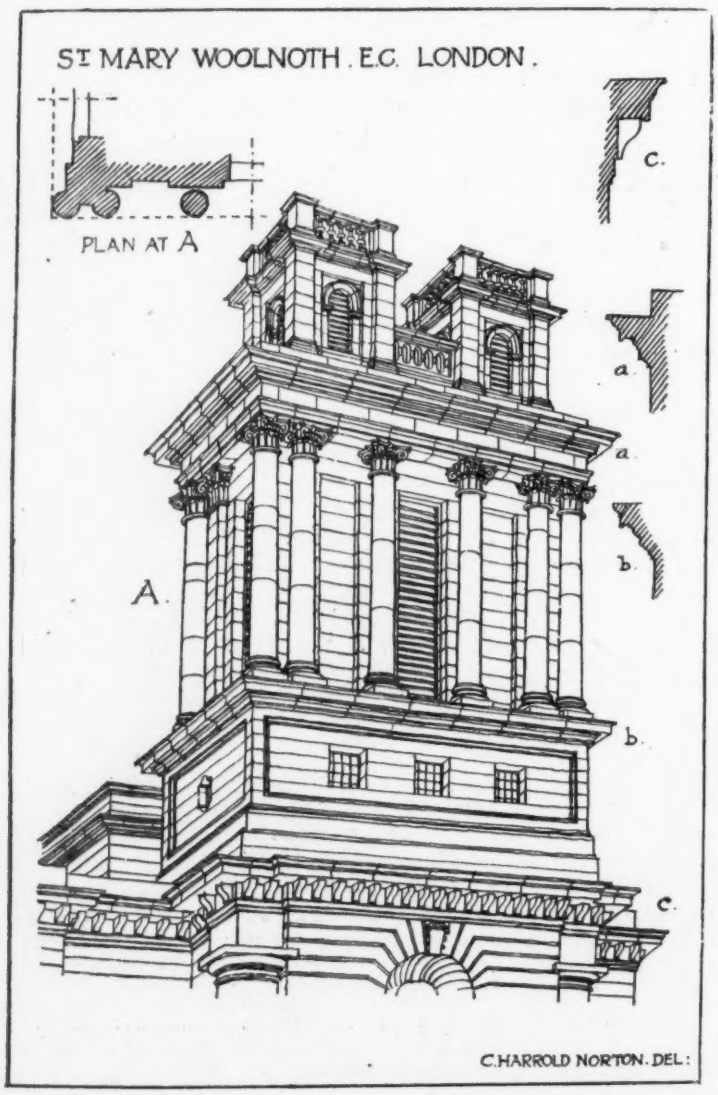
We are very glad that the South-Eastern Railway Company's Bill with respect to Charing Cross Bridge is meeting with such determined opposition, and are pleased that Sir Aston Webb has been able to give so much time and energy to the matter. The fact that he has done so should encourage the opponents of the measure, for Sir Aston wisely does not devote time to championing forlorn hopes, and thus giving the public an excuse for representing architects as unpractical visionaries. The proposals of the company are the outcome of the Philistine attitude adopted by many of the railways and other great corporations in this country, and have been brought forward at a most inopportune time when the country is engaged in the throes of a great war. If the South-Eastern Railway Company would show a little more energy in remodelling their train services and increasing their traffic facilities the public would have reason for gratitude. As it is, the want of better train services puts a barrier in the way of the development of one of the most beautiful counties in England, while for years their freights have been a bar to the increase of trade. They have five stations in London—Holborn Viaduct, Ludgate-hill, Cannon-street, London Bridge, and Charing Cross—which can hardly be considered a necessity, since other companies manage very well with one terminus. The proposal to remove Charing Cross to the southern side of the river and to make a great monumental footbridge to commemorate the present war is a proposal which wants full and impartial consideration after the war, and is not an unimportant side issue which ought to be pushed through when Parliament cannot give fitting and ample investigation to the subject.

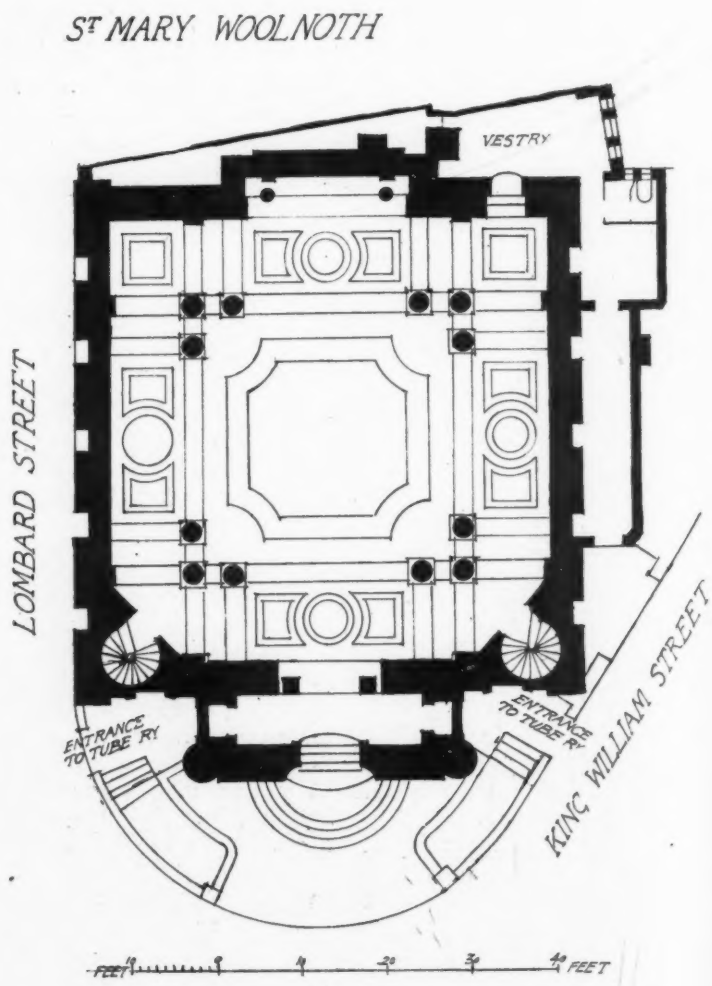
Transport Facilities.

We have received a letter from Mr. Arthur Collins, M.Inst.C.E. and Past-President of the Institution of Municipal and County Engineers, in which he again draws attention to the necessity of reforming our railway transport system. He sees "nothing excellent" in our freight rates being the highest in the world and in the fact that a railway-wagon is only used on the track for 3 per cent. of its time, which naturally justifies the assumption that more railway-wagons are bought and paid for than are actually required. He also says that in the United States, while prices average higher, the cost of a railway-wagon unit for unit is lower than that which obtains here. The reason of this is that our wagons must comply with the requirements of the Board of Trade, while the Pullman wagons are under no such obligation. We agree with him that it is unwise to place unlimited reliance on any Government department and that the data which he quotes should be investigated and examined. It is clearly important to the welfare of our trades and industries that they should have all the advantage of cheap internal transportation rates, and it is equally evident that there is no *primâ facie* reason why our traders should not have it. It is true that private owners in the past have been allowed to hold railway companies up to ransom when they constructed their lines, and that rating authorities use them in many cases unfairly. But, apart from these items and the undoubtedly stringent provisions of the Board of Trade in respect to public safety, we know of no reasons why our freight rates should be maintained at their present level.

Lead-Poisoning.

We have received a letter enclosing extracts from papers in the Midlands dealing with the dangers attending the use of lead paints and the advantage of using zinc substitutes. It is said that leadless paints are making great headway in the Birmingham district. Architects, it is suggested, ought to help in the matter, which it is urged is one of greater moment than the incompleted statistics we are able to obtain would lead us to believe. We feel that the question is primarily one for the authorities and for painters themselves, and that as far as architects are concerned it is still necessary to show that there are substitutes for lead paints which are equally good, and this has not been entirely demonstrated at present. We know that good substitutes exist, but few architects are convinced that lead can be entirely dispensed with. We know also that if reasonable precautions are taken and cleanliness insisted on there is little danger to health; and the question arises whether we should treat the painter as a naughty child or give him proper warning of the dangers which may attend his calling. Most of the danger arises from the dry-rubbing down of old painted work, which can be dispensed with or only permitted if the painter wears a respirator; the remaining dangers are obviated by ordinary care and cleanliness, which are within the control of the individual.





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THE LONDON CHURCHES OF WREN AND LATER ARCHITECTS OF THE RENAISSANCE.

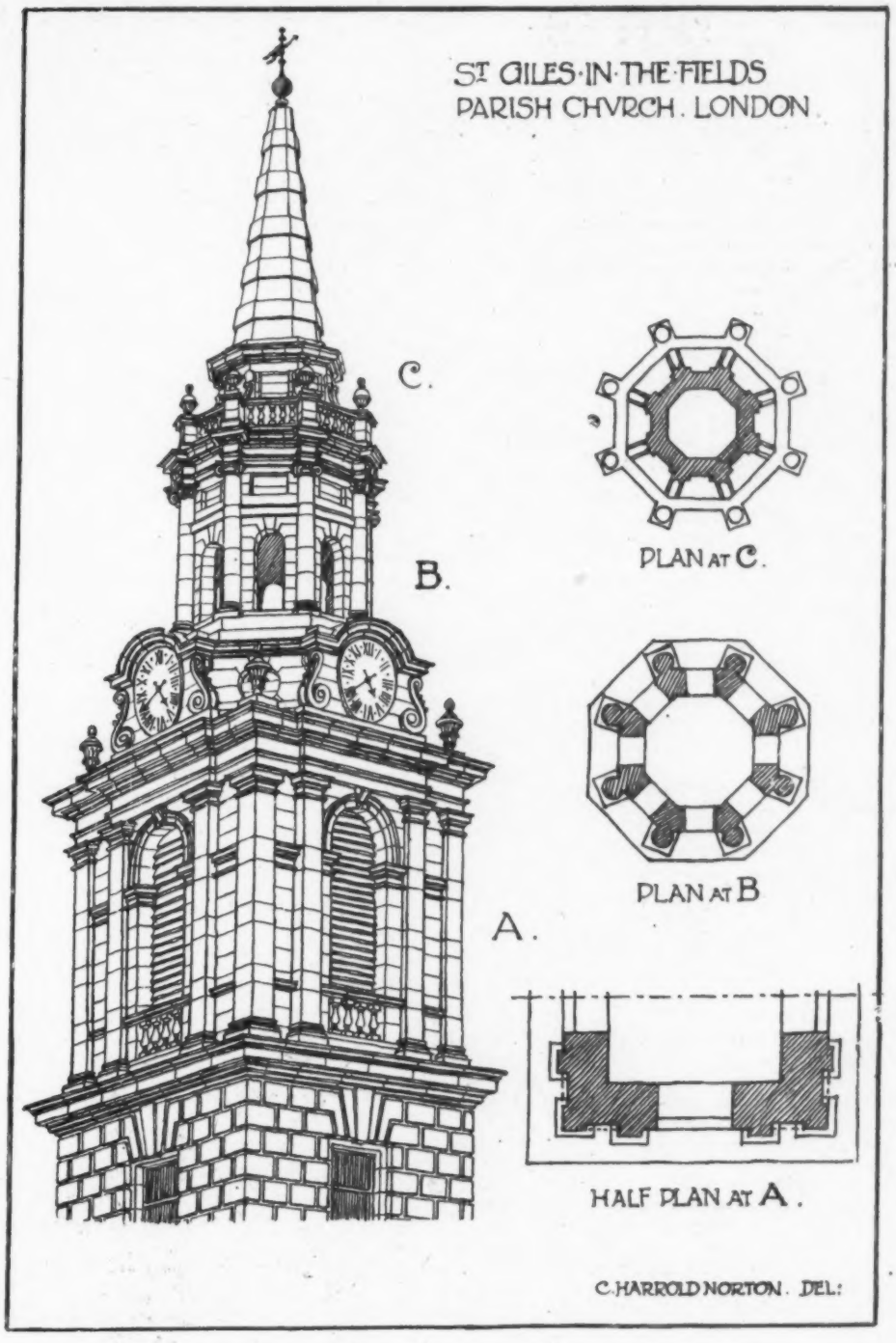
No. XXXVII.—St. Giles-in-the-Fields.

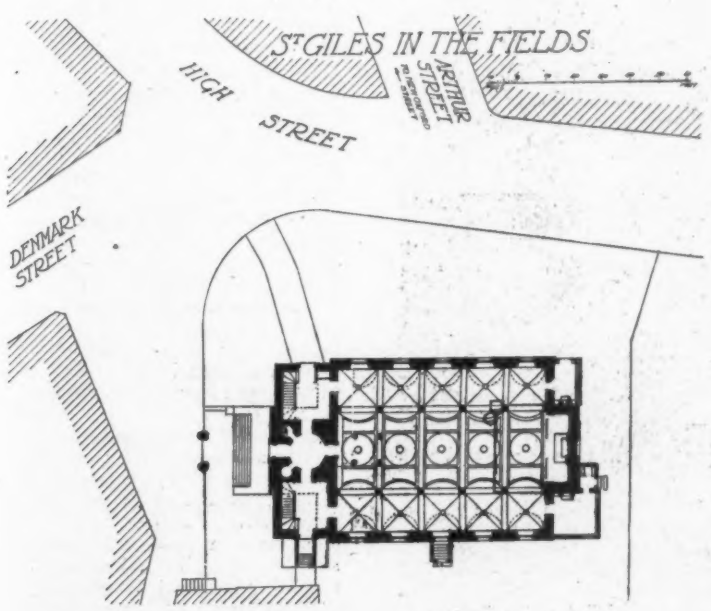
THE church of St. Giles-in-the-Fields was erected on the site of two former structures. The parish undertook in consideration of a grant of £8,000 towards the cost of a new church to pay the stipend of the rector of the new parish of St. George, Bloomsbury-square. Henry Flitcroft, the architect, contracted with the trustees to pull down the old church and to complete a new one according to plans and a model for the sum of £7,030; the old materials, excepting monuments, were to belong to him, and the church was to be completed on or before December 25, 1733. The church actually cost £10,026. Flitcroft also designed the church of St. Olave, Tooley-street. He was the son of the gardener to King William at Hampton Court, and was apprenticed to a joiner and became a member of the Joiners' Company, by whom he was fined in 1747 for not undertaking the duties of renter warden on election to that office. Like other men of his age, he filled a variety of posts, finally becoming Comptroller of his Majesty's Works in England, in which office he was succeeded by William Chambers.

St. Giles-in-the-Fields is well and simply designed on very similar lines to St. Martin-in-the-Fields, which it strongly resembles, and it forms a marked contrast to the more heavy and monumental type of subsequent churches, in which the influence of Vanbrugh is more strongly marked than that of Wren.

No. XXXVIII.—St. Mary Woolnoth.

The church of St. Mary Woolnoth is the work of Nicholas Hawksmoor, whose training was gained under Wren, by whom he was employed at the age of eighteen as "the domestic clerk." He was afterwards deputy surveyor at Chelsea Hospital and clerk of the works at Greenwich Hospital and also at Kensington Palace. Under Sir John Vanbrugh he was employed as assistant surveyor of Blenheim between 1705–15. St. Mary Woolnoth was built between 1720–30 for the united parishes of St. Mary Woolnoth and St. Mary Woolchurch, Lombard-street. He also built the churches of St. George-in-the-East in 1716–19, St. George, Bloomsbury-square, 1723–29, and Christ Church, Spital-fields. His work, of which St. Mary Woolnoth is a good example, shows that he was far more influenced by Vanbrugh than by Wren, and is a clever study in the effective use of rustication and the omission of columnar architecture.





(Reproduced from the Ordnance Survey Plan, with the sanction of the Controller of H.M. Stationery Office.)

A curious feature of the church is the treatment of the centre of the western front, which suggests the merging of two western towers in one composition. The church, though only equal in size to one of Wren's smaller churches, is treated far more monumentally and with a disregard of cost, which is in marked contrast to the economy practised by Wren. The monumental element had at this date influenced English designers, whose planning began to show an indifference to the practical considerations which were so evident at an earlier date. The arrangement and design of the niches on the north wall are most ingenious and effective, but the church is, in spite of its architectural qualities, a somewhat gloomy and forbidding structure. Hawksmoor is described as being a skilful mathematician, geographer, and geometrician.

RAEMAEKERS' RED CROSS GIFT.

It is stated that Lord Furness has purchased outright by private treaty the full set of the first proofs of Mr. Louis Raemaekers' war cartoons, which remain on exhibition at the Fine Art Society's Galleries in New Bond-street until June 10. The proceeds of the sale will be divided between the Red Cross in France and in England.

SILICA AND FIRECLAY MATERIALS.

A PAPER was recently read by Mr. John West, M.Inst.C.E., M.I.Mech.E., of Manchester, before the Manchester District Institution of Gas Engineers (President, Mr. Edward A. Harman, M.Inst.C.E., Huddersfield), on "Silica and Fireclay Materials," giving practical examples of their expansion, contraction, and refractory qualities. In the course of his paper the author said:—

"I have been invited by your President and Council to read a paper before this Institution upon the important question of the refractory materials and the behaviour under heat of fire-resisting materials used in retort settings in gasworks. It is a study which has always had an intense interest for me throughout my long connection with the gas industry, and it is one which all gas engineers should more than ever to-day place to the forefront—more than ever because the costs of maintenance and renewal are anything but negligible quantities in the economy which is so essential in these days of higher costs in all directions and of stern competition. The profit and loss account of all gas undertakings is—I am speaking of normal times and not of the prevailing war conditions—mainly dependent upon the successful results obtained with the carbonising plant, the successful operation of which is absolutely contingent on the behaviour of the fire-resisting materials employed in its construction. Hence the paramount importance of a full and practical knowledge of these materials.

My training as a gas engineer emphasised the imperative necessity of obtaining the very best fire-goods for retort settings. While in charge of the Maidstone gas undertaking I erected, for experimental purposes, a small working plant, and, inasmuch as it was necessary to let the retort down rather more frequently than is customary in ordinary practice, it was requisite that the very best retorts obtainable should be used. After consultation with a retort-maker (whose instructions were to produce, regardless of cost, the best retort he could manufacture) an excellent article was made. The retorts were costly, but in comparison with others of inferior materials they were in the long run the cheapest. This is an indication that excellent retorts could be realised at least forty years ago.

After being appointed Chief Engineer to the Manchester Corporation gas undertaking—this is looking backwards many years—one of my first duties was to arrange for the building and resetting of retort settings for the then ensuing winter. The retort and the fire-goods for this purpose had already been delivered. Upon inspection of the retorts they were found to be very defective and insufficiently burnt, and deserved to be rejected. They had, however, been paid for, and there was not sufficient time in which to obtain new ones. So, reluctantly, they had to be used.

The purchasing methods employed by the Gas Committee of advertising and inviting tenders for so many thousand feet run of retort, without any definite stipulations as to the quality of the materials they were buying, appear very extraordinary and very wrong; but they were not the only corporation or company who were following this bad system of purchasing retorts and other fire materials. You will, I am sure, agree with me that such a practice could only be conducive to inferior and low-priced material being tendered for, and it was certainly no encouragement to good firms to manufacture the best possible material. I found that under these loose advertising conditions, with quality not being properly taken into consideration, many firms would not quote for their best goods.

However, reverting to the defective retorts which had been delivered, I reported the matter to the Gas Committee, pointing out the loss that would be sustained by using such bad-quality material, also that, instead of haggling over a 1d. per foot extra for retorts, an additional 1s. per foot was not a large matter if the full value was put into the retorts; further, that the cost for labour was about the same for setting a good retort as a bad one, and, moreover, that there was a great loss of gas, owing to the contraction of the inferior retorts and their exceptionally short life.

At the same time I recommended that the old and pernicious system of inviting tenders should be dispensed with, and, as an experiment, that the Committee should invite tenders from four well-known firms of good repute, each for ten settings of through retorts of the best quality, with the view of testing the materials under the same conditions and to encourage the makers to do their very best as to quality. The makers were told that future orders would depend upon the result of these tests. Naturally, we had to pay more than formerly for the better retorts, but the working results were very satisfactory indeed. The retorts lasted fully double the time that the former inferior and low-priced retorts had done, and the annual saving, as the result of decreased maintenance charges, was very considerable.

The advent of gaseous firing enabled us to obtain higher heats in retort settings. Consequently, retorts and bricks of greater fire-resisting quality were required to obtain, without destroying the settings, the full advantages of the higher temperatures employed, and greater use was therefore made of silica fire-goods on account of their higher refractoriness, especially in the combustion portion of the settings and around the underside of the retorts.

About twenty-five years ago I commenced to turn my attention particularly to the manufacture of silica bricks, and was instrumental in establishing a brickworks for the purpose in Derbyshire. During this period many and varied experiments have been made with a view to obtaining a reliable silica firebrick. The experience has been extremely interesting, the subject, though surrounded by many difficulties, being an absorbing one. The difficulties as time proceeded have, I venture to submit, been successfully overcome.

As you are no doubt aware, most silica bricks expand, while ordinary fire-goods contract, very materially when subjected to high temperatures; and you will appreciate that both these features are very objectionable. A long time ago I came to the conclusion that all fire-goods should be made as far as possible so that expansion and contraction should be at the minimum; and I also believed that by careful and steady experimenting with various mixtures this much-desired result could be achieved. As you, of course, know, silica goods are difficult to manufacture, owing to the very small percentage of binding material permissible in their composition.

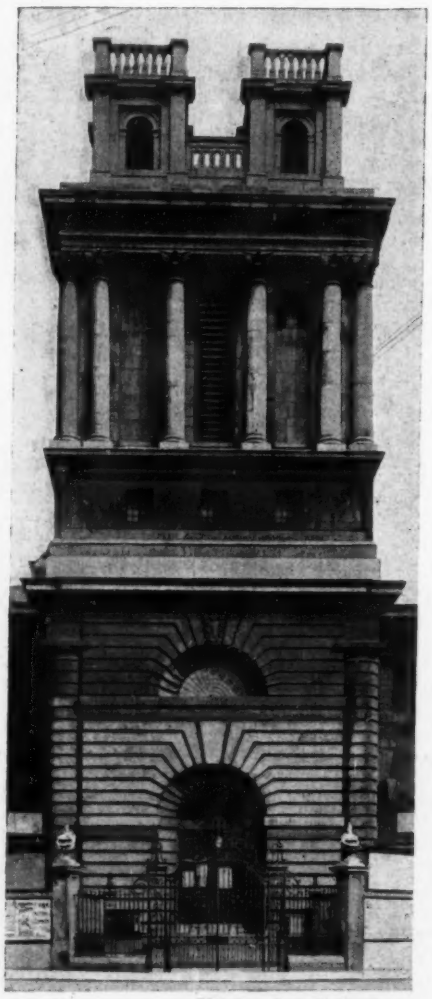
Most of the silica obtained from the pits in which I am interested in Derbyshire is proved by analysis to be very pure. It contains about 96 per cent. of silica, so that there is a very good margin for the manufacture of highly refractory bricks. After many experiments, we succeeded in making an excellent and highly refractory brick which in the experimental furnace did not show any signs of expanding or contracting. Samples of the bricks were sent for testing to Dr. Mellor; and he stated that the material neither expanded nor contracted at cone No. 12, 1,350 deg. C. (2,462 deg. Fahr.). These non-expanding silica bricks have for many years past been used by me in horizontal settings, particularly in those positions exposed to the greatest heat, with the results that combustion chambers have practically retained their original shape under high temperatures and retorts have remained true.

The importance of these features, especially with retorts operated by stoking machinery, will be appreciated.

The question of the expansion and contraction of refractory materials is a very serious and important one; and it is only by great care and frequent observation that a decision can be arrived at as to the actual behaviour under the working conditions, more particularly in respect of the load on the material at high temperatures. To make a suitable selection of materials for use in the various forms of retort settings is therefore a difficult problem, particularly in these days of high temperatures, where there is a combination of silica and ordinary fireclay goods in a setting, the silica having a tendency to expand and the fireclay a tendency to contract—two distinct variations troublesome to deal with.

Much has been said and written about the alleged superiority of German-made retorts and other fire materials, and a few words may not be out of place here on the subject. There is no doubt that the Germans have made (as in the case of many of their other industries) a special study of firebrick production and retort-bench construction, and in this they have been assisted very much by German gas engineers and scientists. Cost, too, has not been regarded, for in that country the makers get higher prices, *pro rata*, for their goods than is obtainable in England. It is acknowledged by all who have studied the matter that there is as good material in Great Britain as there is in Germany, and that it is only a question of bringing scientific and practical experience into the manufacture to produce finished goods which will compare more than favourably with those of German make. With every confidence I say that British manufacturers will rise to the occasion and maintain their position.

With the kind of material made in Germany I have some personal knowledge. Mr. Irminger, the Chief Gas Engineer of the Copenhagen Municipality, some years ago made very exhaustive experiments in his combustion chamber arches with the best German materials against the Derbyshire silica bricks. While the German materials gave way, the Derbyshire materials kept their original form, and only became glazed on the outer surface. I communicated with Mr. Irminger recently on this subject, and he replied as follows:—"Attention may be called to the arches in the combustion chambers of our setting being of silica blocks and bricks throughout, and this prevents the retorts which are supported by them from sinking, as the silica material expands very little. Arches of ordinary clay bricks of the best German materials have been found to sink more than 6 in., the bricks, in my opinion, not being burnt at a sufficiently high temperature, and contraction subsequently takes place. Since we commenced many years ago the use of the Derbyshire silica firebricks in our arches,



[*Photo: Geo. Trotman.*

St. Mary Woolnoth, E.C. (*See page* 415.)

where the highest temperature prevails, we have never found any sinking of the 20-ft. long retorts supported by the silica arches—the duration being equal to or more than the retorts (say, about 1,500 days), while with the best German materials the duration was only some hundred days, on account of the sinking of the retorts, which prevented the use of stoking machines."

Mr. Irminger also said that he thinks it impossible to obtain reliable tests with fire-bricks after only a few hours' trial in a laboratory in an ordinary atmosphere, and that it is a question of time, together with the chemical action at high temperature by different gases. Both these factors can only be realised in actual working over a year or more. He goes on to say: "I have experimented very often by placing bricks in the combustion chamber from 200 to 300 days; and when the ovens are cooled down to make a thorough examination of them. The best proof is I have found some of the best German clay retorts may go very well for some months, but they afterwards commence to shrink. Therefore long-time proof is necessary." I quite endorse Mr. Irminger's views, and know of other engineers who are of the same opinion."

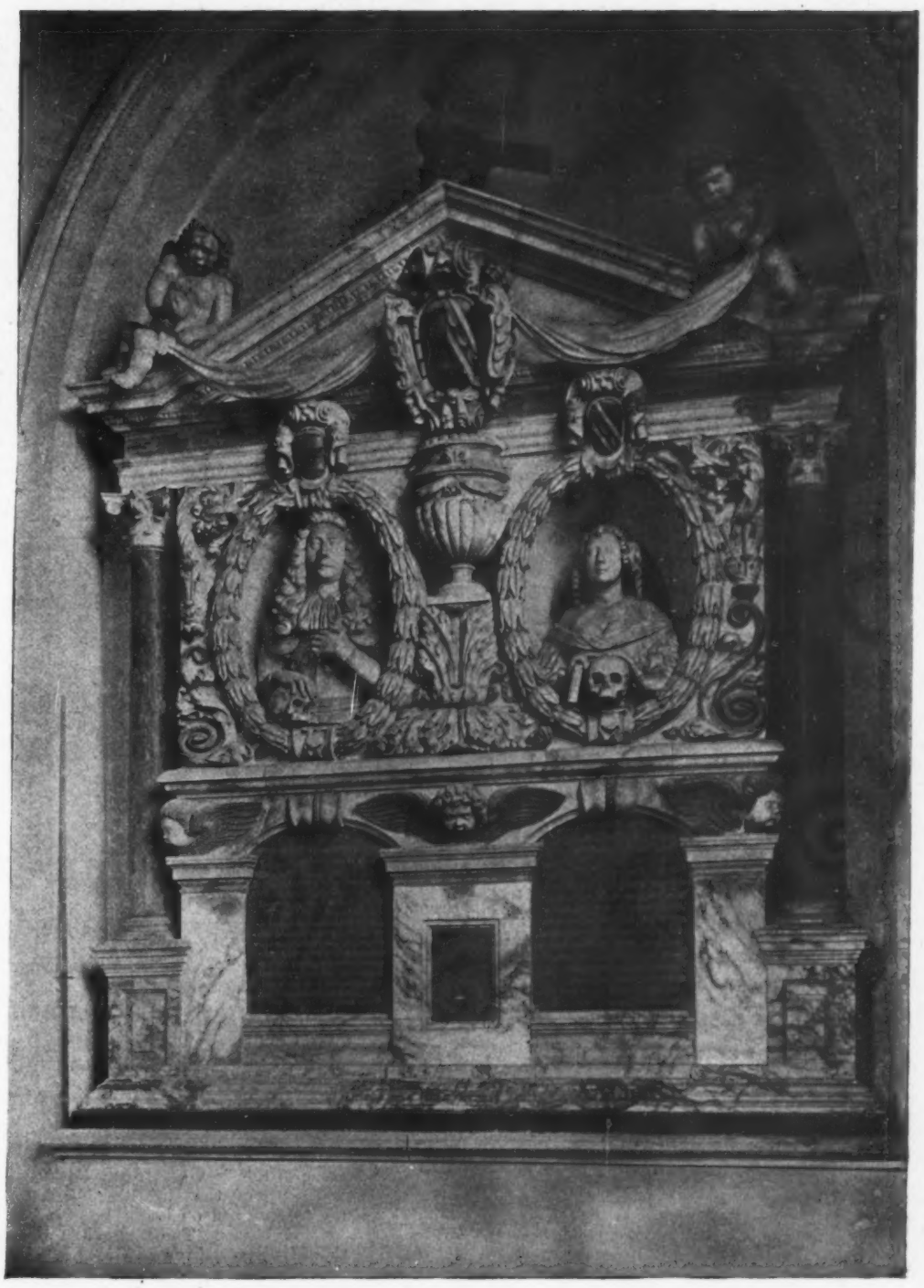
BOOKS.

English Mural Monuments and Tombstones. (London: B. T. Batsford, Ltd. 12s. 6d.)

THIS admirable little book contains a selection of eighty-four photographic illustrations of wall tablets, table tombs, and headstones of the seventeenth and eighteenth centuries. The subjects have been specially selected by Mr. Herbert Batsford, and Mr. Walter H. Godfrey, F.S.A., has written the introduction. No more opportune and useful work could have been produced at the present time, for the examples selected show that our forefathers excelled in the suitable commemoration of the dead more markedly than they did in the provision of accommodation for the living. More than this, while a knowledge of the architecture of past ages helps us in designing now, but cannot be adopted without many modifications, the mural tablets of the seventeenth and eighteenth centuries are in most cases directly applicable to modern wants, and are therefore of greater value to our craftsmen. As a consequence of war we shall have many monuments to erect, but because of the stress of the times they must be treated in the most simple and inexpensive manner, and in the work of the seventeenth and eighteenth centuries such conditions were usually paramount. Old inscriptions give us a lesson in brevity and expressiveness, and, while the sentiment of to-day would render them in many cases inappropriate, they may yet be regarded as models, and the lettering used cannot be improved upon. How simple a mural monument may be made is shown in No. 17 from St. Mary the Virgin, Oxford, and No. 18 from St. Mary the Great, Cambridge, while in No. 24, which we illustrate, we have a note of greater elaboration, which is a most pleasing example of freer Renaissance design. This book should be in the hands of every craft worker in marble and stone, while it should serve a secondary object in calling the attention of the public in every locality to the rich treasures of design to be found in many old churches in every part of the country. The monumental mason of to-day may be said to have added a new terror to death, while our ancestors understood its pathos and beauty, and made the world of the living richer by that knowledge. We may indeed say with another meaning, *Sos monumentum requiras circumspice*, for this little book will teach many what to look for. It is almost superfluous to say it is excellently produced.

The Construction of the Panama Canal. By WILLIAM L. SIBERT, Brigadier-General U.S.A., Divisional Engineer, Panama Canal, 1907-14, and JOHN F. STEVENS, Chief Engineer, 1905-7. (London and New York: D. Appleton & Co. 7s. 6d.)

THIS useful and well-written book contains a lucid account of the greatest engineering work of the age, an account in which technicalities are avoided, but which is sufficiently detailed to be of use to engineers. The American Government in undertaking the work were fortunately aware of the immense difficulties of the project, and therefore avoided the mistakes which led to the abandonment of the French canal and proved the Waterloo of M. de Lesseps, who hoped to add to the renown he had gained at Suez by the accomplishment of a work as important for America as the Suez Canal has been for the Old World. The magnitude of the work already carried out can be estimated when we remember that the completed portions utilised and the plant provided for it which were incorporated in the American scheme are estimated to cost nearly £2,000,000. The authors of the book state with pride that the American canal was carried out at the estimated cost and in the stipulated time, and it affords an admirable object-lesson of what can be done by well-directed national administration and organisation. Among other wise decisions made was that of bearing in mind the true meaning of *festina lente*, for the canal work proper was not undertaken before the Government had had full and exhaustive reports on the relative merits of the rival schemes of a sea-level canal and one with locks. They also made every arrangement for successfully combating disease common to the conditions of an admittedly unhealthy region, with such success that all danger from yellow fever—that curse of the tropics—was eliminated. Every preparation was made for the housing and well-being of the workers, so that what might have been a perilous and dangerous task became a standing lesson of the way in which sanitary problems can be dealt with. The success of the enormous undertaking was due to the joint work of many eminent men, but it is probable that Major George W. Goethals, who was the chief engineer and executive officer of the commission during the entire period, will be most prominently associated with its success. The book contains well-written chapters dealing with each section of the work, which space does not permit our commenting on, but the summing up in favour of the method under which the canal was constructed, by national agency instead of ordinary contracts, deserves full consideration, since it goes to prove that the greatest of works can be economically undertaken by a Government if it employs the right men. The lesson of the Panama Canal for us is that a Government should avail itself of the most competent advice, for in this way alone can the interests of true economy be promoted.



Mural Tablet, Stanton Harcourt, Oxfordshire.
(From "English Mural Monuments and Tombstones.")

GENERAL NEWS.

The War Fair.

The War Fair in aid of the funds of the Wounded Allies' Relief Committee has been opened in the Caledonian Market.

Exhibition of Home Industries.

The annual exhibition of the Home Arts and Industries Association was opened on Wednesday last week at the Hon. Mrs. Newdegate's house, 36, Grosvenor-place.

"Drake" as a Pageant.

Mr. Louis N. Parker's play, "Drake," is to be played in the open air at York (where Mr. Parker produced a notable pageant in 1909) in aid of the two V.A.D. hospitals there. The Yorkshire Philosophical Society has lent the Museum Gardens for the production, and should the weather be bad the performances will take place in the Theatre Royal. They will take place on Wednesday, Thursday, and Friday, July 26, 27, and 28, and there will be a preliminary performance, attended by convalescent soldiers.

The Surveyors' Institution: Military Service.

The large number of men possessing surveying and constructional qualifications, who are now being called up for military service, makes it impracticable for the authorities in all cases to take advantage of their professional experience by allocating them to the technical branches of the Army. It may therefore be of interest to some to hear that the Secretary of the Institution is in a position to say that Lieutenant-Colonel Cranfield, commanding 3/7th D.C.O. (Middlesex Regiment), is prepared to give members of the Institution or their assistants an opportunity of enlisting in that battalion and, as far as possible, to allow them to serve together in the same platoon. Intending recruits should communicate direct to the headquarters of the battalion at Solefields Camp, Sevenoaks.

Town Planning Institute.

The annual general meeting of the Town Planning Institute was held recently at the Institution of Municipal and County Engineers, Victoria-street, Westminster. Mr. Raymond Unwin (President) occupied the chair. The following members of Council were unanimously reappointed:—

Architects.—Messrs. S. D. Adshead, P. B. Houfton, H. V. Lanchester, A. S. Soutar, P. T. Runton, R. Unwin (President).

Engineers.—Messrs. J. A. Brodie, J. W. Cockrill (Senior Vice-President), W. T. Lancashire, H. E. Stilgoe, J. A. Webb (Associate Member), E. Willis (Associate Member).

Surveyors.—Messrs. T. Adams, W. R. Davidge, T. H. Mawson, G. L. Pepler, G. N. Dixon (Associate Member).

Legal Members.—Messrs. E. R. Abbott (Vice-President), J. T. Birkett, R. A. Reay-Nadin.

Legal Associate Member.—Mr. C. P. Lovelock.

Hon. Member.—Mr. W. R. Jeffreys.

Associate Member.—Sir R. A. Paget, Bart.

Ex-Officio Member.—Mr. P. Abercrombie (Hon. Librarian).

The name of Mr. Chalton Hubbard was added to the list of legal members on the Council. Following the annual general meeting, the adjourned discussion on the papers by Mr. H. R. Aldridge and Mr. H. Shawcross on "The Town Planning Proposals of the Urban Land Report" was taken. Mr. Aldridge, in his paper, suggested that town planning should be made obligatory.—Mr. Cockrill maintained that obligatory town planning was necessary, as hardly a day passed in a town that was developing, or even in a place that was not developing, but what the Town Planning Act would prevent things being done that would be a blot for all time.—Mr. Stilgoe pointed out that it was easy to say that the general law could be amended in certain respects and the same results obtained, but if the local authorities had to wait for that there would be no progress. We were advancing very rapidly, and most people thought that immediately the war was over there would be needed a larger number of small houses suitable for the working classes.

Technical College for Middlesbrough.

Mr. Joseph Constantine, a Middlesbrough shipowner, has given £40,000 towards a scheme for the establishment of a technical college in the town, and other local firms have promised £15,000.

Italian Artists and the War.

An exhibition of pictures dealing with the war by Italian artists will be held shortly after Whitsuntide at the Leicester Galleries, Leicester-square. The leading artists of Italy are contributing to it, and the exhibition will have an official character by the inclusion of a large collection of paintings of the war on the Italian front by the artist, Ludovica Pogliaghi, who has been authorised by the Italian Government to execute the series. Signor Pogliaghi is well known to visitors to Milan as the designer of the bronze doors of the Cathedral.

The Rebuilding of Dublin.

The following letter by Mr. Ernest Newton, President of the Royal Institute of British Architects, appeared in the *Times* of Wednesday: "Sir,—It is to be hoped, notwithstanding the difficulties and distractions of the times, that the rebuilding of the Sackville-street district will be carefully considered. There is always a temptation to go along the line of least resistance and to rebuild a destroyed area in the quickest possible way in order to rehouse the inhabitants; but if careful thought and a little time are given to the problem now the result should be an ordered and considered scheme worthy of the City of Dublin and its fine architectural traditions."

In the House of Commons on Thursday last week Mr. Asquith, asked by Mr. R. M'Neill whether, with a view to the prevention of vested interests being created which would interfere with the rebuilding of Sackville-street, Dublin, as part of an architectural and town-planning scheme worthy of the position and natural features of the thoroughfare, the Government would take immediate steps to acquire the whole area in order to be in a position to control the rebuilding, replied:—The Home Secretary is proceeding to Dublin to discuss this with other questions. I can make no statement until after his return. Mr. MacCallum Scott: Is the right hon. gentleman aware that the worst of all architectural effects are produced under Government controlled schemes? Mr. Asquith: That is a matter of opinion and experience.

Major Phillips Fletcher.

Major H. Phillips Fletcher, F.R.I.B.A., F.S.I. (partner in the firm of Messrs. Banister, Fletcher, & Sons), of the Middlesex Hussars, has returned to England on being gazetted to the Royal Flying Corps. The Major had been attached to the French Navy as Commandant of the British Military Observers who were flying with French pilots in the East. He was awarded the Croix de Guerre in August last for reconnaissances under fire for the first time, and before leaving the French Squadron received it again on two further occasions, once more for work with the Navy and once with the French Army. This entitles him to wear palm leaves and two stars on the riband of the order. He is the only British officer thus decorated.

British Memorial of the Centenary of Argentina's Independence.

It is announced that Sir Reginald Tower, his Majesty's Minister, has formally presented to the President of the Argentine Republic the clock tower which has been erected in the Plaz Britanica at Buenos Aires. The foundation-stone was laid by Sir Walter Townley, then British Minister to the Argentine, on November 26, 1910. The tower was designed by Mr. Ambrose Poynter, son of Sir Edward Poynter, President of the Royal Academy. The contract for its erection was given to Messrs. Hopkins & Gardom, who have carried out the work under the supervision of Mr. M'Carthy, clerk of works. The height from the ground to the three-masted ship which serves as a weather-vane is 200 ft. The tower is square in form and supports an octagonal drum and cupola, the latter covered with copper and surmounted by a vane. An electric lift is fitted in the interior. On the ground floor is a hall or waiting-room.

Cardiff Hospital.

Sir Edward Nicholl has given £10,000 to the King Edward VII. Hospital at Cardiff. The sum is to be devoted to the erection of a new wing, and is given on the occasion of the honour of knighthood conferred by the King.

The Architectural Association of Ireland, Dublin.

The following resolution was passed at a meeting of the Committee held on the 31st ult.:—"In view of the large amount of impending architectural work in Dublin, the Committee of the Architectural Association of Ireland desire to call the attention of architects in practice and assistants to the register which is kept at the Association offices. This register, under the present abnormal conditions, they have decided to throw open free of charge. Every effort will be made to assist practising architects and assistants at the present juncture." Applications should be addressed to the Hon. Secretaries, the Architectural Association of Ireland, 15, South Frederick-lane, Dublin.

Architects and Military Service.

We are informed that the 20th London Regiment (T) has vacancies for some 500 men. If sufficient architects joined this regiment an "Architects' Company" would be formed and they would be kept together during training. The regiment has two battalions in France, and a third battalion is being formed for the purpose of supplying drafts to the first and second battalions. Intending recruits should apply to Major Dodd, Holly Hedge House, Blackheath. (Telephone: Lee Green 962.) Lieutenant-Colonel S. W. Cranfield (A.R.I.B.A.), commanding the 3/7th D.C.O. (Middlesex Regiment), states that he is prepared to take fifty or sixty architect recruits in his battalion. They must be medically fit for service abroad. Intending recruits should write to Headquarters, 3/7th D.C.O. (Middlesex Regiment), Solefields Camp, Sevenoaks, and they will receive a free railway warrant.

Excavations at Dunfermline Abbey.

With the authority of the Crown, Mr. P. Macgregor Chalmers, architect, Glasgow, is conducting search-work in the nave of Dunfermline Abbey Church. The object of the operations is understood to be to ascertain the nature and extent of St. Margaret's Chapel, which existed prior to the nave, and may have been used for worship while the heavy masonry walls and pillars of the old part of the church were being built in the twelfth century. It is presumed from the trenches which have been dug that the chapel had occupied a site within the interior lines of the two rows of pillars, with its apex at the landing at the centre door entering the new church. The odd fragments of standing masonry which have been laid bare point to the existence of a structure of some kind there at a very remote date, and the *débris* suggests that the present floor of the nave had been used as a place of sepulture.—*Glasgow Herald.*

The President of the Surveyors' Institution.

Mr. George Francis Stewart, the recently-elected President of the Surveyors' Institution, was born in 1851. He was educated at Marlborough College and Trinity College, Dublin, where he graduated Senior Moderator and Gold Medallist in 1872. He then entered his father's office, and in 1878, on the death of the Earl of Leitrim, went down to the County Leitrim in charge of the extensive Clements Estates in that county. Since 1879 he has been a magistrate and grand juror, and since 1900 Deputy Lieutenant of the County of Leitrim, in which he has a large number of agencies. He served as High Sheriff in 1893, and for many years has represented the county on the Central Executive of the Landlords' Convention. In 1885 Mr. Stewart became a partner in the firm of Messrs. J. R. Stewart & Sons, Dublin. Of recent years he has been engaged in many important arbitration cases, and has negotiated a large number of sales under the various Irish Land Acts. He is a member of the Senate of Dublin University (Trinity College), and in 1902 he was elected a director of the Bank of Ireland, of which he has been Governor for the last two years.

Leading Contents.

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ILLUSTRATIONS.

The City Companies: Goldsmiths' Hall.

WE are not able at present to illustrate Fishmongers' Hall, which is now being utilised for purposes in connection with the war, but hope to do so subsequently; but we give illustrations of the Goldsmiths' Hall, Philip Hardwick's fine building, which is one of the best examples of English architecture of its date.

City Improvement Scheme, Oporto.

WE illustrate two views made by Mr. Raffles Davison of the very fine improvement scheme which Mr. Barry Parker has designed for the City of Oporto. The area has already been cleared, and the scheme will be proceeded with shortly in its entirety. In Portugal the owner is allowed to fix the rateable value of his own property, but this rateable value fixes the amount of compensation to be paid to building owners when public bodies wish to carry out improvement schemes, and there can be no dispute or delay in carrying out schemes owing to the demands of private owners. We have already commented on this very fine project—almost, if not quite, the best scheme of the kind we have ever seen—in our article on "Architecture at the Royal Academy" (May 5).

CORRESPONDENCE.

The Commercial Value of Design.

SIR,—Whilst in general sympathy with the views expressed by Mr. Hamilton T. Smith on this subject, there is something to be said for the manufacturer's point of view.

There are manufacturers in this country who would be quite ready to collaborate with designers, in a whole-hearted way and without stinting expense, but for the fact that they know, sometimes from costly experience, that the venture will probably be unprofitable.

Mr. Hamilton T. Smith mentions the gas fire. I know a firm who really did try to get out a set of inoffensive designs, studying proportion, restraint in the use of detail, and utility, but because these designs did not conform to the standard dimensions laid down by the gas engineers, who are the buyers in Great Britain, the experiment was a failure. The public do not buy gas fires, they hire them, and the engineers decide what is good taste.

The firm I have in mind would have lost its entire business in this branch of trade had they not accepted the conditions. The traveller was instructed to obtain from his customers the standard dimensions, and the works manager then said to his designer, "Here are a series of dots; draw lines through them and make them into designs." This manager resented the position, but the only alternative was to close his shops.

Although the gas engineer is probably the chief sinner in this country, there are others who also have the power to control taste, such as the ironmonger and speculating builder. As we all know, plain things cost more, and ignorant eyes cannot account for it. The ironmonger and builders' merchant naturally aim at stocking goods they can sell easily, and the builder does not want any convincing that the more showy, cheaper article is the best from every point of view.

My remarks do not refer to special work—an architect knows where to get that to his liking, but it is practically impossible to get the cheaper common things nice, neither would there be any monetary reward to the manufacturer if he tried to supply them, simply because the general demand is for the other sort.

Those people who would like to live with quiet plain fittings in their homes are only a proportion of the whole, and have no power to influence the people I have mentioned, whereas the vast majority are perfectly content with "taste" as expressed by the gas engineer, the ironmonger, and the speculating builder.

DESIGNER.

St. Paul's Cathedral.

SIR,—The greatest danger to St. Paul's Cathedral is the enormous weight of the outer dome of timber, lead, and iron, and has caused all the mischief to the piers. As I pointed out some years ago, some of the stone blocks used in constructing the piers were placed on their grain instead of bed. This caused the cracks on account of the enormous pressure of the weight on the base. The iron ties in piers also perished by rust. The outer dome is constructed of great timbers nearly 250 years old. The base is surrounded by a heavy iron cable chain. This outer dome is covered with lead. Dry rot and vermin have attacked the timber and rust the ironwork, exactly as the timber roof of Westminster Hall was perishing from dry rot and insects. As most people are aware, St. Paul's Cathedral is built on Ludgate-hill, whose soil is clay and liable to slide, especially if a heavy pressure is applied such as the enormous weight of the above-mentioned outer dome. The repairs of piers, etc., will, I am afraid, not be permanent unless the enormous weight is removed. If this were done we need not fear for the safety of St. Paul's Cathedral—the masterpiece of the great architect, Sir Christopher Wren. As I said before, unless the dangerous heavy outer dome is reconstructed in a light, strong, fire and weather proof material nothing will save this grand and beautiful building.

HENRY H. B. SANG,
Architecte-Decorateur.

P.S.—I find that the only metals which will agree with plaster or concrete are either copper or aluminium.

Defective Water Supply to Bath.

SIR,—Can you or any of your readers suggest a satisfactory solution of the difficulty caused by the fact that the cold-water supply to my bath runs in a mere trickle? The tap has been in use some thirty years, I believe, and possibly it is lined (or the service-pipe is) with a thick coating of sediment. The only suggestion I have been able to get is to have a new pipe laid to the main, and this means digging up my lawn and making a frightful mess generally, to say nothing of expense.

PUZZLED.

ESTATE OF AN ABERDEEN BUILDER.

The inventory of the heritable and movable estate of the late James Park, builder, 31, Cranford-road, Aberdeen, who died on February 14 last, has been lodged with the Sheriff Clerk and amounts to £18,910 16s. 2d.

ARCHITECTURAL SOCIETIES.

The Royal Institute of the Architects of Ireland.

The Council met on Monday, June 5. The President, Mr. R. Caulfeild Orpen, was in the chair. There were also present:—Messrs. W. Kaye-Parry, Vice-President, H. J. Lundy, J. H. Webb, G. L. O'Connor, W. A. Scott, F. Bachelor, F. G. Hicks, A. E. Murray, C. A. Owen, A. G. C. Millar, L. O'Callaghan, R. M. Butler, G. P. Sheridan, H. Allberry, and Frederick Hayes, Hon. Secretary. In connection with the question of the rebuilding of the late destroyed areas the following resolution was adopted:—

"That the Government should embody in any Bill dealing with the rebuilding—'power to acquire in the Sackville-street area all the sites of the destroyed property, and, where necessary, those of the premises adjoining, and to redistribute these sites, define the boundaries, and control the designs.'"

A letter was received from the Architectural Association of Ireland, expressing its approval and general adherence to the terms of the resolution adopted by the Council, and dealing with the desirability of imposing conditions or restrictions with regard to the design and reconstruction of buildings in important thoroughfares, so that they shall conform to some general scheme of street improvement.

BOOK RECEIVED.

HARPER'S HYDRAULIC TABLES FOR THE FLOW OF WATER. By Joseph H. Harper. (London: Constable & Co., Ltd. 8s. 6d. net.)

FIFTY YEARS AGO.

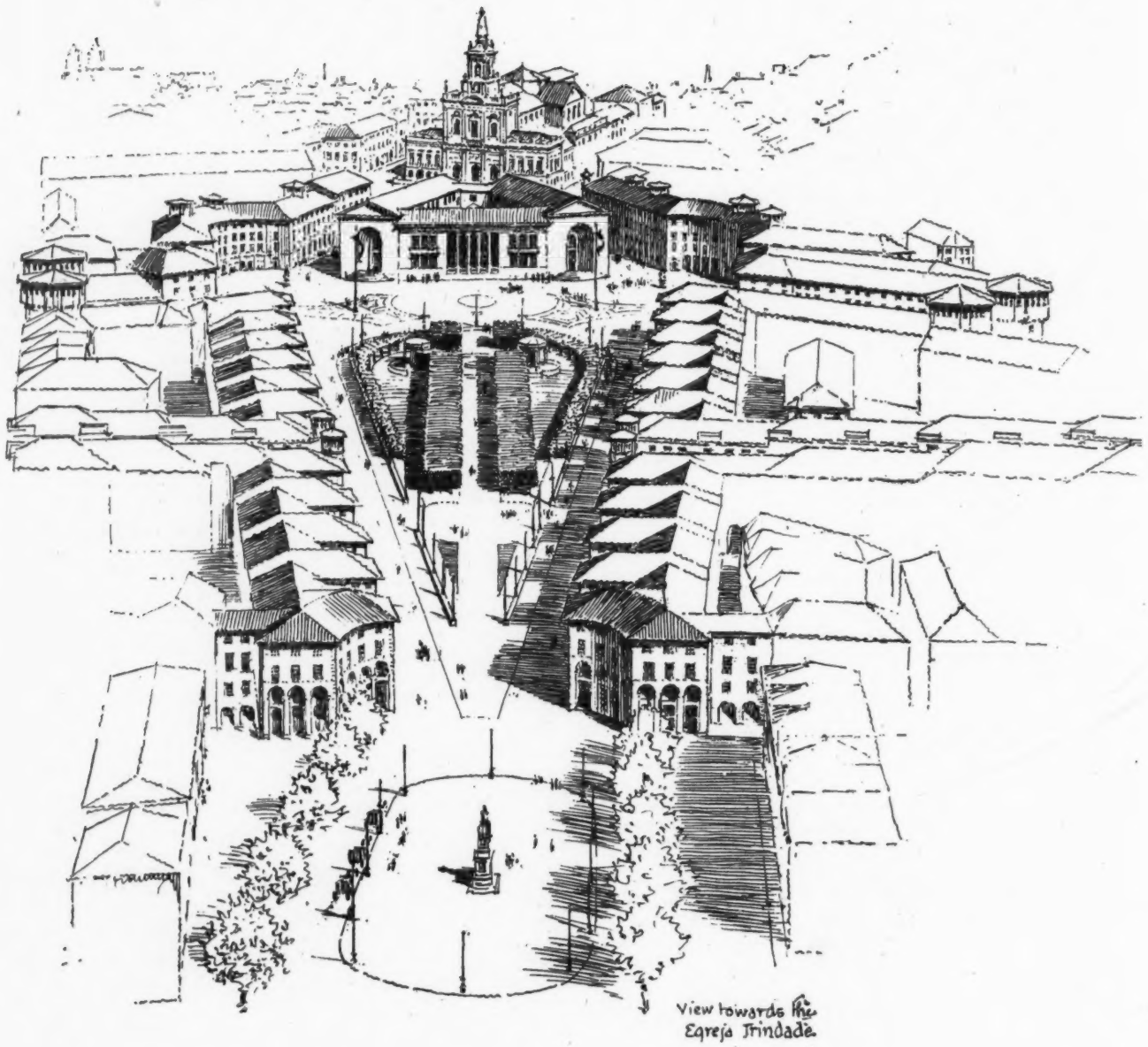
Sanitary State of Chorlton Union.

AT an annual meeting of the local Board of Guardians last week a report was presented from the Medical Committee recently appointed in apprehension of a visitation of cholera, to investigate the sanitary condition of the various townships in the union. Most of these are described as very bad. The reports of the various medical officers of the townships give detailed accounts of them, from one of which, that of Mr. Smith, of the Hulme district, No. 1, we may give a brief passage:—"The most unhealthy parts of the district lay between Russell-street and Cornbrook, City-road, Chester-road, and the lower part of York-street; from this quarter nearly all the cases of typhus had come during the past year; and should the cholera visit us it would locate itself in that region. There were whole streets of back-to-back houses with most imperfect ventilation and drainage. In many places there were closed courts and passages with privies in the most filthy and neglected state, and cellar dwellings of the most unwholesome character and utterly unfit for human habitation. The ashpits and shallow drains emitted a constant stench that was most prejudicial to health. Pools of surface-water and refuse lay about; and the sewage percolated through the walls even into the very dwellings."

[*** From the *Builder* of June 9, 1866.—ED.]

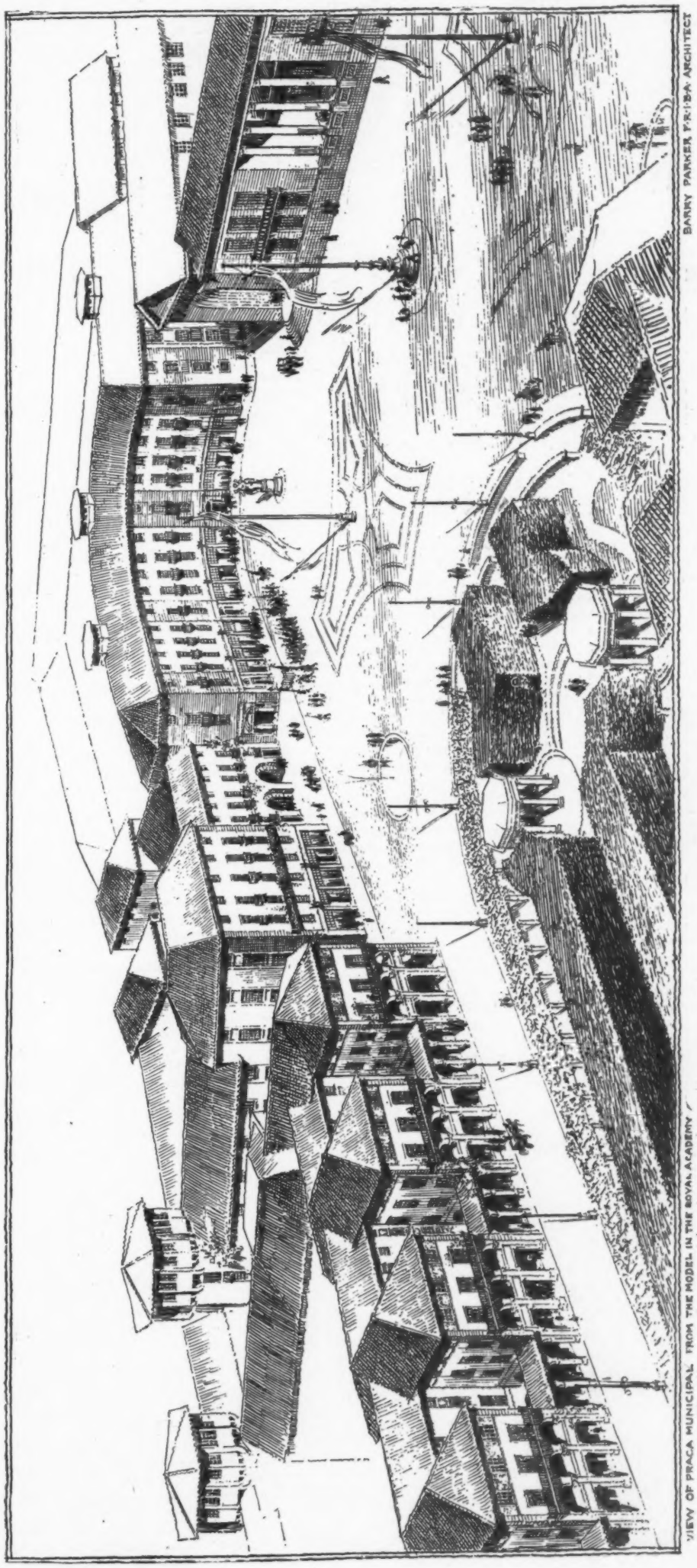
ST. MARY'S CHURCH SPIRE, LEICESTER.

About 40 ft. of the top of the spire of St. Mary's Church, Leicester, has been condemned as unsafe, and it will be necessary either to remove that portion, leaving it flat, or else rebuild it.



CIVIC CENTRE FOR THE CITY OF OPORTO

BARRY PARKER F.R.I.B.A. ARCHITECT



VIEW OF PRAÇA MUNICIPAL FROM THE MODEL IN THE ROYAL ACADEMY

CIVIC CENTRE FOR THE CITY OF OPORTO

. . The . .

City Companies and Their Halls.*

(Old Arms.) Present Motto: "JUSTITIA VIRTUTUM REGINA."

No. 4.

The Goldsmiths' Company.

THE Goldsmith occupied a position of honour and importance throughout the Middle Ages and in the days of the Renaissance. Wealth consisted more than it does to-day in the possession of property of value in plate and jewellery, which was handed down from generation to generation, and could, if necessary, be given as a security to those advancing money. The great Goldsmiths frequently acted as moneylenders and bankers to kings, as numerous historical records show. The Goldsmith and Jeweller have provided a subject of fiction for Scott in the person of George Heriot, King James' goldsmith, and for Dumas, in Bœhmer and Bossange in "The Queen's Necklace," which both fact and fiction have associated with the tragic destinies of Marie Antoinette. The value of the material dealt with dignified the craft, and thus we find the greatest work of many an artist in times of the Renaissance is connected with the working and fashioning of the precious metals, so that it was primarily as a gold-worker that Benvenuto Cellini made his name. The value of plate and jewellery was always dual, arising from the intrinsic value of the metal itself and the added value given by the artistic excellence of the craftsmen, which in the days of Renaissance culture was fully understood and appreciated. In earlier days a gold chain served both as an ornament and a convenient form of portable wealth, an obligation being frequently discharged by cutting a few links from its length. The growth of a more complex civilisation and the use of credit have destroyed the pre-eminence of the Goldsmiths' position, while the decay of craftsmanship and the habit of regarding precious objects as luxuries rather than portable forms of wealth, more valuable than money because of the added value given by artistic excellence, have undermined the importance of the position once occupied by those whose craft was both a necessity and an opening for the most delicate craft of design.

The Goldsmiths' Company occupies the fifth place in order of precedence among the City Companies, and in the year 1180 is mentioned as being one of the adulterine or unauthorised guilds. It was amerced or fined forty-five marks—a large sum in those times—indicating that the guild was of considerable importance. The records state that in the year 1267 or 1268 an armed affray took place in the streets at night between the Goldsmiths and Merchant Taylors, and the combatants were separated by a sheriff's posse, many arrests being made and thirteen of the delinquents executed. In the year 1300 the existence of the Company was recognised in a statute, 28 Edward I., cap. 30. The standards for gold and silver were fixed, and the Wardens of the craft were given powers to assay all articles of these metals, and certain powers of search were granted to them.

The Goldsmiths chiefly congregated in Cheapside, Old 'Change (so named from its proximity to the exchange for the King's coin), Lombard-street, Foster-lane, St. Martin-le-Grand, Silver-street, Goldsmiths'-street, Wood-street, and the lane adjacent to Goldsmiths' Hall. Of these, Cheapside was their principal place of residence, and the southern side from Bread-street to the Cross was known as Goldsmiths'-row, the shops being occupied by Goldsmiths. In 1629 a movement arose for making Cheapside, Lombard-street, and its vicinity the exclusive seat of the Goldsmiths and other sumptuous shops; and the King, having noticed certain mean houses in the area, directed the attention of the Corporation to the matter in an Order in Council, but the difficulty of securing reasonable accommodation for those dispossessed delayed the change. The Government of Charles I. also threatened the City with penal consequences if all the shops in the quarter were not let to Goldsmiths and like trades or closed till suitable occupants presented themselves.

Like other of the guilds, the Goldsmiths fulfilled a dual *rôle*—that of a fraternity, the object of which was largely to secure mutual protection, to promote social intercourse, and to administer charity; and that of a craft guild to promote the interests and guard the privileges of a craft, and, in common with most of the other guilds after a period of active trade regulation, they have largely reverted to what was their original functions. Their patron Saint was St. Dunstan, to whom there was a chapel dedicated in St. Paul's Cathedral, while it was St. Dunstan-in-the-East in which the brethren and sisters attended the obits of the deceased with wax lights in their hands, and on St. Dunstan's Day the yearly feast of the Guild was held.

The powers exercised by the voluntary association were subsequently confirmed by charters, the Wardens fining workmen for making wares which were under standard, and entering shops to seize false wares, also settling disputes between masters and workmen and punishing rebellious apprentices by flogging. Heavy fines were levied on those who slandered the Wardens or reviled members of the Fellowship, and control was exercised by the Guild both in London and the country.

In the early part of the fourteenth century the Company had an Assay Office, and the statute of 28 Edward I. provided that no vessel of gold or silver should leave the hands of the workmen until it had been assayed by the Wardens and stamped with the leopard's head, at that time part of the royal arms of England.

The native and foreign Goldsmiths were divided into classes enjoying different privileges. Firstly, the members of the Company who were mostly Englishmen, and whose shops were subject to the control of the Company and who made certain payments for the support of the Fellowship. The second class comprised the non-Freemen or "Allowes"—that is allowed or licensed. They were described "Allowes Englis," "Allowes Alicant," "Alicant Strangers," and other similar titles.

These paid tribute to the Company and were subject to their control. The quarterage paid by members, the tribute of the "Allowes," admission fees and fines constituted the Company's original income. English Goldsmiths frequently endeavoured without success to prevent foreigners settling in London, but it was probably known that the best artists were often foreigners and that their exclusion would be detrimental to the craft. In 1445 thirty-four strangers were sworn, in 1447 Carlos Spaen paid £8 6s. 8d. to the alms of St. Dunstan to be admitted as a Freeman, and in 1511 John de Loren paid £20 on a similar occasion. Foreigners applying for the freedom were forced to produce testimonials from the authorities of the towns abroad where they had resided, and apprentices had to make masterpieces before gaining admission to the Fellowship.

The first of the Company's charters was granted by Edward III. in 1327. Under its provisions the Company were allowed to elect honest, lawful, and sufficient men skilled in the trade to inquire into matters of complaint, who might reform defects in the craft and punish offenders. It goes on to state that all those who were of the Goldsmiths' trade should sit in their shops in the High-street of Cheap (Cheapside), and no silver, plate, golden or silver vessels ought to be sold in the City save in the King's Exchange or in the said street of Cheap among the Goldsmiths. It was further enacted that, as many Goldsmiths kept shops in obscure turnings and streets, and bought vessels of gold and silver secretly without inquiring whether they were stolen or lawfully come by, and immediately melted them down to make into plate to sell to merchants travelling beyond the sea, those who secretly worked at the craft behind locked doors or in obscure places were heavily fined on discovery. To prevent such practices it was ordained that no gold or silver should be manufactured or sent abroad except that which was sold in the King's Exchange or openly among the Goldsmiths, and that none pretending to be Goldsmiths should keep shops but in Cheap.

By two subsequent charters of the same reign these privileges were confirmed and extended, and licence was given to the Company to purchase and hold tenements of the value of £20 per annum for the relief of poor members.

These rights and privileges were confirmed under subsequent charters of Richard II., Henry IV., and Henry VI., while Edward IV. by letters patent in his second year confirmed previous charters, granting that the then Wardens and their successors may be a corporation

* The following articles on the City Companies have already appeared in our pages:—The Mercers' Company, March 31; the Grocers' Company, April 28; and the Drapers' Company, May 12. The Skinners' Company will be given on July 7. We shall give the Fishmongers' Company at a subsequent date.

or body corporate to consist of and be called the Wardens and Commonalty of the Mistery of Goldsmiths of the City of London, capable in law to purchase, take, and hold in perpetuity lands, tenements, rents, and other possessions whatsoever of any persons that shall be willing to give, devise, or assign the same to them. Their trade rights were also confirmed. Numerous other charters followed, including one under James II., reserving to the Crown the right of control over the appointments of the Wardens and Clerk, an interference with the Company's powers which, like similar charters of the times, abrogating and annulling the independent powers of other City Companies, was made void under Act of Parliament in the reign of William and Mary. The government of the trade under the Company's charters continued down to the reign of Charles II., but for some time before and in the interval prior to the passing of the Act of 12 George II., c. 26, the powers granted to the Company began to be questioned, and the Goldsmiths thought it expedient to obtain an Act of Parliament, which was prepared by its officers and, together with enactments contained in the Act of 7 & 8 Vict., c. 22, comprises the principal laws relating to the Goldsmiths' trade to-day. By these Acts the Assay Office is regulated, and the charges made for the assaying and marking of plate are to be solely to defray the expenses of the office, the Company being prohibited from making any profit. The powers conferred on the Company are those of the assaying and stamping of gold and silver plate required to be assayed and stamped, and extend to every part of England.

In connection with the coinage of the realm, the Company have carried out what is termed the "Tryal of the Pyx" ever since the reign of Edward I., the first known writ for such a trial bearing the date of 1281. The Mint officials are bound to place in the Pyx for the use of the jurors at such trial one coin out of every 2,000 gold coins and one coin out of every 60 lb. Troy weight of silver coins. The object of the trial is to ascertain if the metal of which the coins are composed is standard and they are of the prescribed weight. In former times the trial was made at uncertain dates, but the Coinage Act of 1870 prescribes that an annual trial shall be made, and since that date the Pyx has been brought to Goldsmiths' Hall and tried annually. Previous to the Act a jury of competent Freemen, summoned by the Wardens, was charged by the Lord Chancellor, who subsequently received their verdict. In earlier times the Sovereign sometimes presided, and amongst others both James I. and Charles II. were present at such trials. Now the jury is sworn by the King's Remembrancer and the verdict given in writing, after which it is published in the *Gazette*. The Pyx is the name given to the small box containing coins out of which those to be tested are taken.

During recent years coins from the branch mints in Australia and Canada have been included in the annual trial at the request of H.M. Government.

The site of Goldsmiths' Hall belonged in the reign of Edward II. to Sir Nicholas de Segrave, a brother of the Bishop of London. On his death the Company bought the premises, but the date when the Goldsmiths first built upon the site is unknown.

In 1365 we learn from an Ordinance that the Company assembled at their "common place" in the parish of St. John Zachary, and in a later entry, in 1380, there is mention of a new parlour and cellar being built, from which it would appear probable that the Goldsmiths made additions to the old house of Sir Nicholas de Segrave to adapt it for their purposes; in 1401 the Hall in Fasteres Hall is definitely mentioned. The second Hall is attributed to Sir Dru Barentyn, but no mention of it is made in the records until 1447, and its completion appears to have covered a period of many years. It was a building of considerable extent, containing a parlour and probably a Court-room, an armoury, granary, Assay Office, vaults, and chapel, and it had a courtyard. The Hall had long windows, those towards Huggin-lane being decorated with armorial bearings, and had a roof with a lantern and vane.

Stow, in 1598, speaks of it as "a proper house, but not large," and discredits the legend that Sir Bartholomew Read, Goldsmith, and Mayor in 1502, entertained more than 100 people in it.

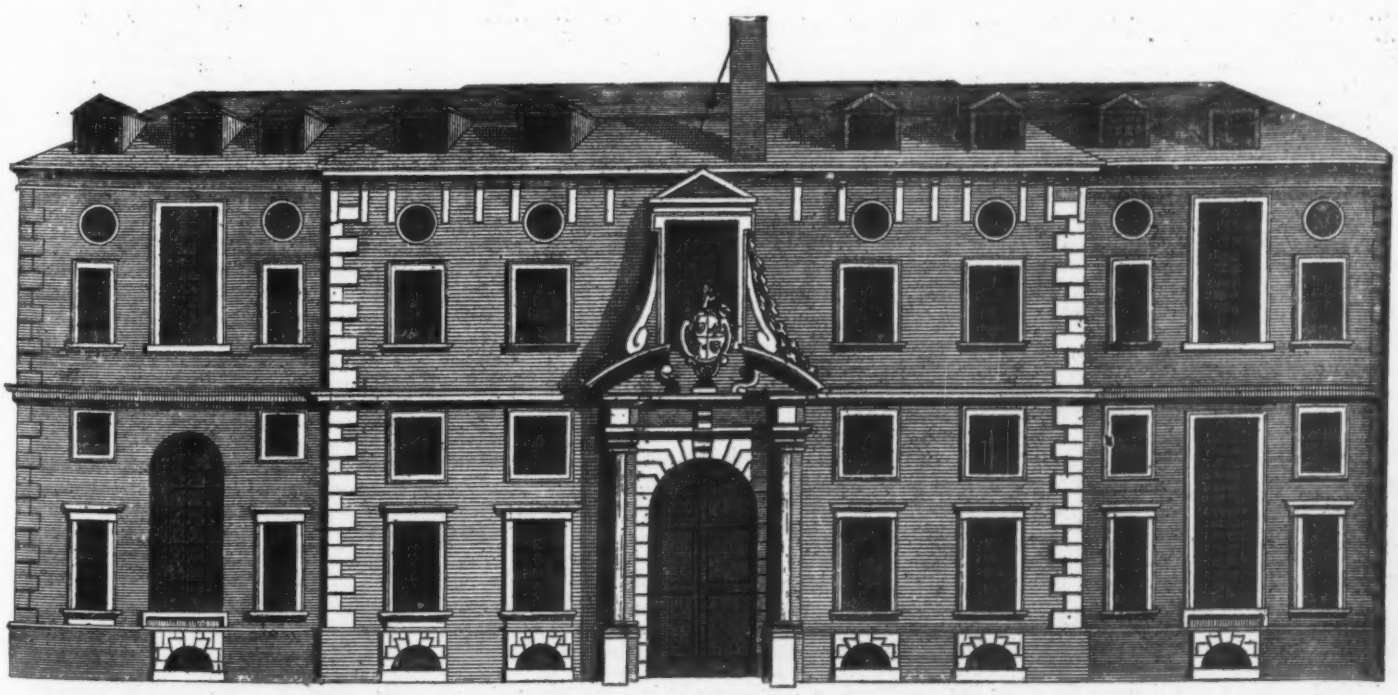
The third Hall was erected in 1634-6, the buildings being enlarged by the addition of the sites of ten houses, and Inigo Jones, the King's Surveyor, was consulted about the work, for which Charles I. gave his licence.

The Hall sustained much damage during the Great Fire, after which Jarman laid his plans for rebuilding before the Court in 1666-67; but the buildings were slowly erected in consequence of the want of funds, not being completed till 1669, while in 1681 portions of them were again destroyed by fire.

Jarman's Hall was a simple red-brick building, enclosing a paved courtyard with a lofty arched entrance. The Livery Hall, on the east of the yard, was paved with white and black marble and panelled. It would seem to have been an interesting and characteristic work of the period, though on a smaller and simpler scale than the fourth and existing Hall.

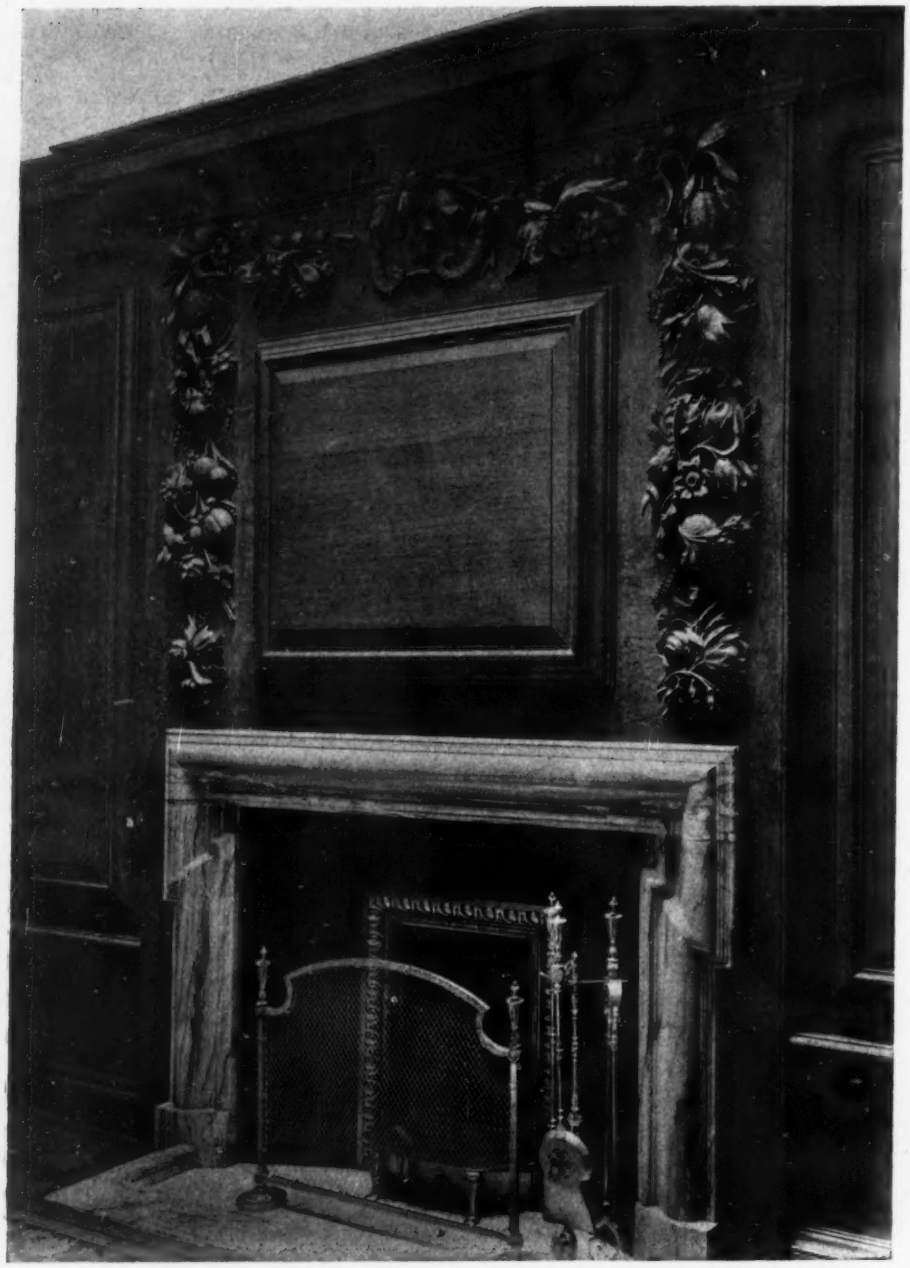
The present Hall was built from the design of Philip Hardwick, R.A., and was commenced in 1829 and opened on July 15, 1835. The plan on which most of the older Halls were laid out—that of a quadrangle surrounding an open court or garden—was abandoned for a symmetrical arrangement of greater dignity and impressiveness. The front to Foster-lane is treated in a Classical manner, and the central entrance leads to a handsome entrance-hall, panelled in oak from an old manor house at Acton. The fine ceiling was designed by Mr. A. Burnett Brown, the present Surveyor. On the right and left of the entrance-hall are offices, and immediately in rear and separated from it by a glazed and panelled screen the great marble staircase, which forms the most impressive feature of the building. The pedestals of the lower staircase flight are surmounted with figures representing the "Seasons," the work of Nixon, while in the central spaces between the coupled columns on either side of the stairway over are placed marble groups representing Cleopatra, the Libyan, Sibyl, and Medea, by Storey. Among other statuary which may be mentioned is Edward III., by Armstead, R.A., placed in a niche opposite to the first flight of the staircase. The Livery Hall is on the first floor, immediately in rear of the grand staircase, and is a finely-proportioned, dignified room of good architectural character and effective decoration. The only unfortunate feature in it are the windows, which are unpleasingly divided by mullions and transoms and filled with poor-coloured glass. Were these removed and the spaces glazed with clear glass with armorial medallions the gain in effect would be very marked. The front is occupied by the Court Dining-room, Drawing-room, and Court-room, forming a fine suite separated by wide doorways and admirably planned for receptions. The two end rooms of the suite are architecturally well conceived and proportioned; the Drawing-room is treated in a manner reminiscent of the Louis XV. style, but its detail is somewhat coarse and heavy in character for the type adopted. One of the best architectural features is the Binding-room, which Mr. Burnett Brown (Messrs. Brown & Barrow), redecorated with some old panelling, chimney-piece, and other woodwork, which was discovered in the basement of the present Hall, and are approximately of the date of William and Mary. The ceiling was lowered and a domed plaster ceiling introduced. The back part of the block contains the Clerk's house and the Assay Office, which communicates by a passage in the basement with additional premises on the opposite side of Gutter-lane.

Like other of the great Companies, the Goldsmiths have carried out a large amount of



The Third Hall of the Goldsmiths' Company, as designed by Jarman.

(From "Maitland.")



Chimneypiece in Binding-Room, Goldsmiths' Hall.

educational work and administered many charities, both on behalf of members of the trade with which they are connected and purposes of general charities. They have built and endowed almshouses in Acton in accordance with bequests made under provisions of the will of John Perryn in 1656, and St. Dunstan's Church and Vicarage, East Acton, was built and endowed in 1878 at a cost of £30,000, provided out of the corporate funds of the Company.

They also founded a Queen Victoria Commemoration Charity in commemoration of the sixtieth anniversary of the Queen's reign, and endowed it with £20,000 out of their corporate property. The interest is applied in the manner which is considered most conducive to the formation of provident habits among deserving and necessitous Goldsmiths and Silversmiths who have resided for ten years within a radius of twelve miles from Goldsmiths' Hall, and who have continuously exercised their craft for ten years previously.

In 1822 they founded six exhibitions tenable at Oxford and Cambridge of £20 each; in 1882 they had provided seventy-five scholarships tenable at the two Universities and of the annual value of £2,500. On the occasion of the opening of the new Hall in 1830 the Prime Warden was able to state that, in spite of the expenditure on the new Hall, "not one pension has been abridged, no charity has been diminished, and not one single petition for the relief of our poorer brethren has been rejected."

The Company have been connected with several well-known schools, among which are Stockport and Bromyard. In 1487 the Goldsmiths became trustees under a will of Sir Edmund Shaa for the payment of an annual sum of £10, to be applied to the support of a priest at Stockport "cunning in grammar and able to teach it." This was paid until 1830, when the Company greatly enlarged the school, increasing the stipends of the masters. By 1859 they had spent £30,000 on the school, which has since been transferred to local authorities, the Company endowing it with £290 a year in addition to the original £10.

The Goldsmiths became connected with Bromyard School in Worcestershire under the provisions of the will of John Perryn in 1656. He directed that £20 a year should be paid to a master in addition to £15 a year foundation grant. The school was remodelled in 1831 and the Company's contributions to it increased. On the suggestion of the educational authorities the school was ultimately replaced by a Secondary School for Agricultural Students in 1890, towards which the Goldsmiths' Company have contributed £10,000.

With other of the leading Companies, the Goldsmiths contribute towards the payment of £20,000 a year for promoting Technical Education to the City Guilds Institute, the buildings of which have also been erected out of funds contributed by the City Companies.

The Company have also in recent years given £87,000 to the Imperial College of Science and Technology for the extension of the City and Guilds Engineering College at South Kensington, and have presented to the University of London the site and buildings of the Goldsmiths' College at New Cross, as well as other gifts.

In 1892 the Goldsmiths gave £25,000 to cover the cost of the erection of a block of dwellings by the Guinness Trust in Camberwell, a district in which many of the poorer members of the trade with which they are connected dwell.

In 1890 the duties on gold and silver plate, which had been collected by the Company for the Government, were abolished. This step had been considered to be advisable for a long period, but no steps had been taken, as it was felt that the repayment of the duties paid on new and unused plate by dealers must in fairness be a precedent of the measure, and the extreme difficulty and delicacy of carrying out such an operation was felt to constitute a difficulty.

The Goldsmiths assisted the Government by examining the stocks of all dealers in London and the country, and in recognition of the services they had rendered in this matter their Clerk, Sir Walter S. Prideaux, received the honour of Knighthood.

Our brief survey will show the important functions which the Goldsmiths' Company carried out in past centuries, and that, like other of the guilds, they now carry out work of great importance and value which serves to supplement educational and charitable work, while they still exercise functions which are in the highest degree essential to the interests of the craft they represent and to the public.

THE LONDON COUNTY COUNCIL.

A MEETING of the London County Council was held on Tuesday in the County Hall, Spring-gardens, S.W., Mr. A. F. Buxton, Chairman, presiding.

Loan.—Sanction was given to the borrowing by the Woolwich Borough Council of £1,380 for street improvements.

Electric Radiators.—On the recommendation of the Fire Brigade Committee it was agreed to invite tenders from selected firms for the supply of electric radiators at thirteen fire-stations.

Charging Apparatus.—It was agreed that tenders be invited from selected firms for the supply of motor generators for the charging apparatus at the Fulham and Millwall fire-stations.

Working-class Dwellings.—In a report submitted by the Housing of the Working Classes Committee, dealing with working-class dwellings built and demolished during the year 1914, it was stated that for the second year there has been a net decrease in working-class accommodation in the County of London. The Committee report that the most important conclusion suggested by the return for 1914 would appear to be that up to the outbreak of war there was no indication of a revival in the building of working-class houses in Greater London. There is little doubt that the number of vacant houses and tenements suitable for working-class occupation in the country, and even in the extra-London districts, is now small, while in some districts, such as Woolwich, there is a shortage of accommodation.

South-Eastern and London, Chatham, and Dover Railways Bill.—The Parliamentary Committee reported that instructions have been given for the renewal, in the House of Commons, of the Council's opposition to the South-Eastern and London, Chatham, and Dover Railways Bill, with the object of securing the rejection of the power relating to Charing Cross Bridge.

THE REPAVING OF PARK-LANE.

A difficulty has arisen in connection with the proposal for the repaving of Park-lane. The estimate for wood-paving, made in December, allowed £7,800 for the work, but the lowest tender received is for £10,403, or £2,603 more than the estimate. The difference is due to the rise in the price of timber. There was, however, a tender for asphalt paving at £6,636.

THE BUILDING TRADE.

DISEASES OF OCCUPATION AMONG PAINTERS AND PLUMBERS:

THE REMEDY.

WE have received the following letter from a correspondent to whose remarks reference is made on page 414:—

SIR,—Your readers have noticed in the *Board of Trade Labour Gazette* a monthly Report of Diseases of Occupations in Factories and Workshops—both cases and deaths.

"Cases include all attacks, fatal or otherwise, reported to the Home Office. . . . Deaths include all fatal cases reported during the month. . . .

"The total number of cases of poisoning . . . reported to the Home Office under the Factory and Workshop Act during April, 1916, was fifty-two. . . . In addition, four cases of lead-poisoning (one of which was fatal) were reported among house-painters and plumbers, but notification of these cases is not obligatory." Further: "There were thirty-one cases of lead-poisoning (including four deaths) among house-painters and plumbers during the first four months of 1916, compared with forty-three cases (including seventeen deaths) during the corresponding period of 1915."

Now I wish to impress upon your readers that these figures do not indicate the total number of cases that occurred, but only those which were reported; "but notification of these cases is not obligatory." And why, I may be asked, is the certifying surgeon under no obligation to report to the Home Office those cases of lead-poisoning which occur among painters and plumbers? Because house-painters and plumbers, with few exceptions, are not engaged in factories and workshops, consequently they are unprotected, and not under the jurisdiction of the Factory and Workshop Act.

During four months, taking the average of 1915 and 1916, there were 105 cases reported in factories, including a total of seven deaths, or between three and four deaths in each four months. It is significant that during the same two periods, on the average, there were reported only thirty-seven cases among house-painters and plumbers, with a total of twenty-one, or an average of over ten deaths. From these figures it would appear that in factories only 3 per cent. of cases are fatal, but among house-painters and plumbers over 26 per cent. of cases are fatal. Of course, such figures are misleading unless modified by the words, "but notification of these cases is not obligatory," which words were added in the *Labour Gazette* for May, 1916, by the courtesy of the editor, consequent upon the writer protesting against the misleading tendency of the figures, by themselves, previously published.

If now we accept the reports of fatal cases up to and including April, 1916 (which are supplied by the Registrar-General), namely, twenty-one deaths in eight months, and apply the same comparison of deaths to cases as in factories—that is, seven deaths to 210 cases during the same two periods—we must multiply the 210 by twenty-one and divide by seven. The result is, of course, 630 cases, namely, the number of cases among house-painters and plumbers in eight months, instead of seventy-four which were reported. I believe even 630 to be a grave under-estimate.

If now your readers procure the condensed Report of the Departmental Committee on the Evils of Lead Compounds in Paint [Cd. 7882],* and turn to page 78, they will read as follows:—"That in every 100 deaths which have occurred among members of painters' societies between thirteen and fourteen occurred from causes attributable to lead"; also, "that the average age at death, due to all causes in the painting industry, is no less than eight years younger than all males." Further, a critical medical examination of working painters, conducted in Chicago for the American Government, demonstrated that the average progeny of operative painters falls short by half of their ancestral average. Lead products are racial poisons! (*The American Journal of the Medical Sciences.* June, 1914. Pages 788-803. Philadelphia: Lea & Febiger. 2s. 6d. net.)

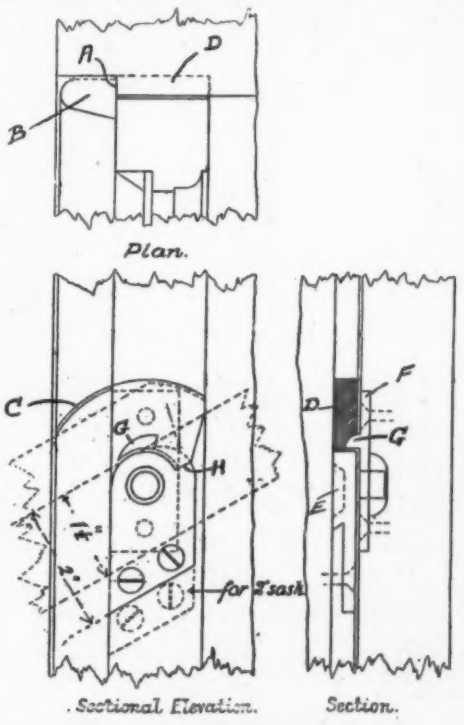
I have endeavoured to impress upon your readers the serious character and extent of the evil. Now for the remedy. And here let me say I have no personal ends to serve.

It has been proved by various service trials, extending over many years, on sea and land, that a durable fine white pigment serves every purpose, made from oxide of zinc, the base of which pigment is *hydrate of zinc* in chemical combination with oil. This has proved successful under conditions fatal to white-lead; and it is equal to red-lead for pointing and cementing and coating metal surfaces. Before, however, this beautiful pigment can be made commercially available the production of zinc oxide as well as zinc spelter must become a British industry; hence the importance of making arrangements for adequate supplies of Australian and other zinc ore or concentrates. Limitation of space forbids my going into further details, but I would urge the speedy provision of pigment to replace poisonous white-lead and red-lead in the national interest. PHILADELPHIAN.

* [Cd. 7882.] Price 1s. 2d. (London: Wyman & Sons.)

AN IMPROVED WINDOW FITTING.

WE have received a specification and seen a model of an ingenious device for doing away with the unsightly arrangement of beads round centre-hung sashes, which has been provisionally protected (Provisional Patent No. 21,408) by Mr. J. Stanford, 25, Briscoe-buildings, Brixton-hill, S.W., and which we illustrate. The inside bead is done away with, the outside bead is fixed to frame and sash in the usual manner. A rebate A is formed of half the width of the bead, and a small pocket D formed in the frame concealed by the sash, which allows space for the upper end of the bead on the sash to move in when the sash is opened. The pivot consists of two parts—a plate E with a projecting pivot pin and plate F, a corresponding bearing to receive the pin, and a curved projecting stop G. E is rounded at the top and has a shoulder H, against which G stops to limit the opening movement.



An Improved Window Fitting.

We understand the invention has been tested and found to be watertight, and it certainly has a better appearance than the centre-hung sash as usually carried out.

PROPOSED NEW BUILDINGS AND OTHER WORKS.*

IN these lists care is taken to ensure the accuracy of the information given, but it may occasionally happen that, owing to building owners taking the responsibility of commencing work before plans are finally approved by the local authorities, "proposed" works, at the time of publication, have been actually commenced. Abbreviations:—T.C. for Town Council; U.D.C. for Urban District Council; R.D.C. for Rural District Council; E.C. for Education Committee; L.G.B. for Local Government Board; B.G. for Board of Guardians; L.C.C. for London County Council; B.C. for Borough Council; and P.C. for Parish Council.

Bedford.—Messrs. W. H. Allen, Son, & Co. have submitted to the R.D.C. plans for the erection of a building in the parish of Biddenham.

Bexhill.—Plans passed by the T.C.:—Four semi-detached houses in Cooden-drive (Mr. G. E. Maynard), Messrs. Piper & Sanders; hall and cinema, Marina (Mr. G. H. Gray), Messrs. H. Pulham & Co.; new porch and entrance to 2, Woodville-road (Mr. J. B. Wall), Mr. J. W. Webb.

Bradford.—The Bradford Health Committee has decided to recommend that a laundry, to be equipped with the plant now at Bierley Hall Hospital, should be provided at Grassington Sanatorium, and that to serve the whole of the remaining departments under the control of the Health Committee a central laundry should be provided at the disinfecting station, Canal-road. The City Architect has been instructed to prepare sketch plans and estimates for the work.

Burryport.—The Plans Committee has considered the plans for a new cinema near the Police Station

Chiswick.—The Licensing Justices have sanctioned plans for alterations at the Pack Horse and Talbot, High-road, Chiswick.

Coventry.—The City Council has approved the following plans:—Timber store, Carlton-road, for Messrs. B. Laird & Co.; additions to works, Smith-street, for T. Smith's Stamping Works, Ltd.; laboratory (amended), Cash's-lane, for the Standard Motor Company, Ltd.; store shed (site only amended), Upper York-street, for Alfred Herbert, Ltd.; factory (amended), Hawkins-road, for the Metallurgical Company, Ltd.; mess rooms, Radford Works, Daimler-road, for the Daimler Company, Ltd.; conversion of existing premises into picture theatre, corner of Cox-street and Ford-street, for Mr. E. Strong; mess-room, Drapers Field Works, Sandy-lane, for the Daimler Motor Company, Ltd.; motor house, rear of 45, Spencer-avenue, for Mr. E. N. Hillier; bacon store, etc., rear of 8, Cook-street, for Mr. R. P. T. Darlington; extension of machine shop, Edgewick Works, Canal-road, for Alfred Herbert, Ltd.; erecting shop, Broad-street, for the Condor Engineering Company, Ltd.; one house (rebuilt), Belvedere-road, for Mr. E. Mortiboy; bridge for cables over canal, opposite the Refuse Destructor Yard, for the Electric Light Committee; alteration to Nos. 412 and 414, Foleshill-road, for Messrs. Freeman, Hardy, & Willis, Ltd.; additions to premises, corner of Hastings-road and Brighton-street, for Messrs. Mitchells & Butlers, Ltd.; shop front, No. 33, Cross Cheaping, for Messrs. Hendry & Co.; six houses, Queen Mary's-road, for Mr. J. Clifton; four houses (two houses amended), and six garages, St. Andrew's-road, for Mr. T. F. Bird; one house, Collingwood-road, for Mr. H. Davis; extensions to laundry, Waveley-road, for Mr. W. Neal; lavatory extension, Northey-road, for Messrs. Webster & Bennett, Ltd.; locomotive shed, Radford Works, Daimler-road, for the Daimler Company, Ltd.; drainage to two houses, Crescent-avenue, for Mr. F. Smith. At a recent meeting of the City Council the expenditure of £1,575 by the Electric Light Committee on a scheme for

* See also our list of Competitions, Contracts, etc., on page 428.

RATES OF WAGES IN THE BUILDING TRADE.

THE following are the present rates of wages in the Building Trade in the principal towns of England and Wales. It must be understood that, while every endeavour is made to ensure accuracy, we cannot be responsible for errors that *may* occur:—

—	Masons.	Bricklayers.	Carpenters, Joiners.	Plasterers.	Slaters.	Plumbers.	Painters.	Masons' Labourers.	Bricklayers' Labourers.	Plasterers' Labourers.
	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.
Aberdare	9½	9½	9½	9½	9½	9	8	6½	6½	6½
Accrington	10	10	10	9½	9	9	9½	6½	6½	6½
Altrincham	9½	10½	11	10	8½	10	10	6½	7½	7
Ashton-under-Lyne	11	11	10½	10½	9	10	10	6½	6½	7½
Barnsley	9½	9½	9½	9½	9	9½	8½	7½	7½	7½
Barrow-in-Furness	9½	10	9½	9½	9½	9½	9½	7	7	7
Barry	9½	9½	9½	10	—	9	8½	6½	6½	6½
Bath	8½	8½	8½	8	7½	8	7½	6	6	6
Bedford	8	8	8	8½	8	9	6½	5½	5½	6
Birkenhead	1/-	1/-	1/-	11	11	1/-	9½	8	8	8
Birmingham	11½	11½	11½	11½	10½	11†	10½	8½	8½	8½
Bishop Auckland	9	9	9	9½	10‡	9	8	6½	6½	7½
Blackburn	10	10½	10	10	9½	10	9½	6½	7½	7½
Blackpool	10½	9½	9½	9½	8½	9½	9½	6	6	6
Bolton	10½	11	10½	10½	10	10	9½	6–7	7	7
Bournemouth	8½	9	9	9	8½	9	8½	6½	6½	6½
Bradford	10½	10½	10	9½	10	10	9½	8	8	8
Bridgwater	6½	6½	6½	6½	6½	6½	6	4	4	4
Brighton	9	9	9	9	—	9	7½	6½	6½	6½
Bristol	10½	10½	10½	10½	—	10½	9½	8	8	8
Burnley	10	10½	9½	9½	8	9½	9½	7	7	7½
Burton-on-Trent	9½	9½	9½	10	9	9½	8½	7	7	7
Bury	11	11	10½	9	10	10½	10	7	7½	7½
Cambridge	9½	9	9	9½	9½	9½	7½	6	6	6
Canterbury	8½	8	8	10	—	8½–9	7	5	5	5
Cardiff	10½	10½	10½	10½	10½	10½	9½	7½	7½	7½
Chatham	8	9	9	9	9	9	7½	6	6	6
Chelmsford	8	7½	8½	9	—	7½	6½	5	5	6½
Cheltenham	8½	8½	8½	8½	—	8½	8½	6	6	6
Chester	9½	10	10	9½	9½	10½	8½	6½	7	6½
Chesterfield	9	9½	9	8	9	8½	8½	5½	5½	5½
Colchester	8	8½	8½	9	8	9	6	5½	5½	5½
Coventry	10½	11	11	10½	11	11	10	8½	8½	9
Crewe	7½	8	7½	9	8½	8	7½	5½	5½	6
Darlington	9½	10	10	10½	10	9½	9	7	7	7
Derby	9½	10	10	9	9	9½	8	7	7	7½
Doncaster	9½	9½	9½	9½	9½	9	8	6½	6½	7½
Dudley	8½	10	10	8½	8½	8	7½	6½	6½	6½
Durham	9½	9½	9½	9½	10	9	8½	6½	6½	7
East Glam. and Mon. Valleys	10	10	10	10	—	—	9	7	7	7
Exeter	8	8½	8½	8½	7½	7½	7½	5½	5½	5½
Folkestone	8½	9	9	9½	8½	9	8	7	7	7
Gloucester	8	8½	8½	8	8	8½	8	6	6	6
Grantham	8	8	7½	7½–8	7½–8	7	6½	5	5	5
Grays	—	10	10	—	—	9½	8½	7	7	7
Grimsby	9	9	9½	9½	9	9	8½	7	7	8
Great Yarmouth	8	8	8	—	8	8	6½	5	5	—
Halifax	10	10	9½	9	9	9	9½	7	7	7
Harrogate	9½	9½	9½	9	8	9½	8½	6½	6½	6½
Hartlepools	10	10½	10½	10½	10‡	10½	9	7½	7½	8
Hastings	8½	8	8	8½	8	8	7	6½	5½	6½
Hereford	8	8	7½	8½	8	7	7	5½	5½	5½
Huddersfield	11	11	10½	9½	10	9	8½	7½	7½	7½
Hull	10½	10½	10½	10½	10	10	9	8½	8½	8½
Ipswich	8½	8½	8½	9	9	8½	7	5½	5½	5½
Lancaster	10	10	9	9½	9	9	9	6	6	6½
Leamington Spa	9	9	9	8½	9	9	8	6½	6½	6½
Leeds	10½	10½	10½	10½	10½	11	9	8	8	8½
Leicester	10½	10½	10½	10½	11	10½	9	8	8	8½
Lincoln	9	9½	9½	9	8½	8½	8	6	5½	6½
Liverpool	1/-	1/-	1/-	11	11½	1/-	10½	8	8	8
Llanelly	9½	9½	9½	8½	9	8½	8	5½	5½	5½
London	11½	11½	11½	11½	—	1s.	9	8	8	8
Loughborough	9	8½	9	9	9	8½	8½	5½	5½	6½
Luton	9½	9	9	8½	9	8½	7½	6½	6½	6½
Maidstone	9	9	9	9	9	9	8	6	6	6
Manchester	11	11	11	11	10	11	10½	7½	7½	7½
Mansfield	8½	10	9½	8½	—	9½	9	7	7	7
Merthyr Tydfil	9½	9½	9½	9½	9½	9	8½	6½	6½	6½
Middlesbrough	10	10½	10½	10½	10‡	10½	9	7½	7½	8
Newcastle-on-Tyne	11	11	11	11	10	10½	10	7½	7½	7½
Newport, Mon.	10	10	10	10	8½	10	9½	7	7	7
Northampton	9	9	9	9	8½	9	8	6	6	6
Norwich	8½	8½	8½	8½	8	8½	7½	6	6	6
Nottingham	11	11	11	10½	10½	11	10	8½	8½	9
Oldham	10½	11	11	10	9	10	9½	7	7½	7½
Oxford	9½	9	9	9	8	9	8	6½	6½	6½
Plymouth	9*	9*	9*	9*	9	9*	8½	6½*	6½*	6½*
Pontypridd	9½	9½	9½	9½	9½	9½	8½	6½	6½	6½
Portsmouth	9½‡	9½‡	9½‡	9½‡	9½	8½‡	7½	7‡	7‡	7‡
Preston	10½	10½	10	9½	9½	10	9½	6	7	7½
Reading	9	9	9	9½	—	9	7½	6*	6*	6*
Rochdale	10½	10½	10½	10	9½	10	9½	7½	7½	7½
Rochester	8	9	9	9	9	8½	7½	6	6	6
Rugby	10	10	10	10½	8¾	10	9	6¾	6¾	6¾
St. Albans	9	9	9	9–10	9	9–10	8	7	7	7
St. Helens	9	9½	10	9½	9½	9½	10½	6	6½	6
Scarborough	9	9½	9	8½	8	9	8	7	7	7
Sheffield	10½	10†	10½	9½	10	10	9	7½	7½	7½
Shrewsbury	8½	9½	9½	9½	—	8½	7	6½	6½	6½
Southampton	8½	9½	9½	8½	—	9½	8½	6½	6½	6
Southend-on-Sea	9	9	9	9	P'cework	9	7	6	6	6
Southport	10	10	10½	9½	9½	10	9½	6½	7	7
South Shields	11	11	11	11	10	10½	10	7½	7½	7½
Stockport	11	10½	10½	10½	9½	10	9½	6½	7	7½
Stockton-on-Tees	10	10½	10½	10½	10‡	10½	9	7½	7½	8
Stoke-on-Trent	9	9½	9	9	—	8½	8½	6	6	—
Stroud	8	8	8	8	7½	7½	7½	6	6	6
Sunderland	11	11	11	11	10‡	9½	9½	7½	7½	7½
Swansea	10½	10½	10½	10½	10½	9	10	7½	7½	7½
Taunton	7	7	7	7	—	6	6½	4½	4½	4½
Torquay	8	8	8	8	8	8	8	6	6	6
Wakefield	9½	9½	9	9½	8½	9	9	7	7	7
Walsall	10	9½	9½	9½	8½	10	8½	7½	7½	7½
Warrington	8½	10½	10½	10½	8½	10½	9½	6½	6½	6½
West Bromwich	10½	10½	10	10½	—	9½	8	7½	7½	7½
Wigan	10½	11	10	10	9½	10½	9½	7	7	7
Windsor	9	9	9	10	—	9	—	6	6	6
Wolverhampton	10½	10½	10½	11	8	10	9	7½	7½	7½
Worcester	8½	9½	9½	9½	9	9½	8	6½	6½	6½
York	9½	9½	9½	9½	9½	9½	8½	7	7	7

The mason's rate given is for bankers; fixers usually ½d. per hour extra.

* War bonus of 2s. per week granted. † War bonus of 3s. per week granted. ‡ War bonus of 2s. 6d. per week granted.

the erection of a coal storage was approved; the improvement of Holbrooks-lane at a cost of £2,330 was sanctioned; and a slight alteration in the housing scheme at Stoke Heath was agreed to, this making provision for ten shops and 599 houses instead of 600 houses.

Dublin.—The Paving Committee of the Dublin Corporation have prepared a report on the question of the widening of Wexford-street, Redmond's-hill, and South Great George-street. The total cost, including the acquisition of property, is estimated at £86,000.

London.—The Licensing Justices have sanctioned plans for alterations at the Grapes, Little Earl-street—licensee, Mr. William Robert Taylor, and also the application by Mr. Harold Walduck for sanction to vary plans of alteration at the National Hotel, Upper Bedford-place.

Penzance.—The L.G.B. Inspector has informed the Penzance Guardians that he would strongly recommend the scheme for the improvement of the workhouse laundry as necessary.

Portishead.—The U.D.C. has accepted the tender of Messrs. Biss & Co. for repairing and painting the seats and shelter on the Esplanade.

Richmond (Yorks).—The Richmond R.D.C. has considered an offer made by the War Office for the construction of a new road from Richmond to Hipswell.—The proposed new road would go from Richmond railway-station *viâ* St. Martin's, and join the Hipswell road close to Hipswell Lodge. The estimated cost is £7,000.

Rotherham.—The Housing Committee have inspected a site of nine acres of land for the erection of workmen's dwellings near the Aldwarke pumping station, and they recommend that the Town Clerk negotiate with the owner for its acquisition.

Smethwick.—Plans approved by the T.C.:—Workshop and shedding for Mr. G. Smart in St. Paul's-road; offices and lavatories for Messrs. Buckley, Ltd., in Cornwall-road; alterations to premises in Rolfe-street, for Messrs. S. W. B. Stephen & Co.; additions to works in Watt-street, for the Soho Drop Forgings Company, Ltd.; lavatories and office fittings in Halfords-lane, for Messrs. Henry Hope & Sons, Ltd.; motor garage in Sandon-road, for Messrs. Winchurch Bros.

Tipton.—Plans have been presented to the D.C. for the erection of a hook and eye factory in Gate-street, and a foundry in Factory-road.

Uxbridge.—Plans for additions to a cottage in Greenford-road, Northolt, for Mr. G. Purser, have been approved by the R.D.C.

Wanstead.—By arrangement between the City Corporation and the Wanstead U.D.C., a footpath is to be constructed across that portion of Epping Forest known as Bushwood, at Wanstead.

Wareham.—The County Magistrates have approved amended plans of alterations to the Railway Hotel, by Wareham Station, proposed to be carried out by Messrs Jno. Groves & Son, Ltd., of the Hope Brewery, Weymouth.

Worcester.—The City Council propose to build a large factory at Blackpole.

York.—The following plans have been approved by the Streets and Buildings Committee of the York Corporation:—Messrs. Pearse & Son, additional office, Lendal; Messrs Rowntree & Co., Ltd., temporary blacksmith's shop and store, Haxby-road Works; Messrs. Rowntree & Co., Ltd., temporary cardbox store, Haxby-road Works; Mr. W. Dixon, conversion of three cottages into one, Bay Horse-passage, Walmgate.

GENERAL BUILDING NEWS.

INFIRMARY, REDHILL.

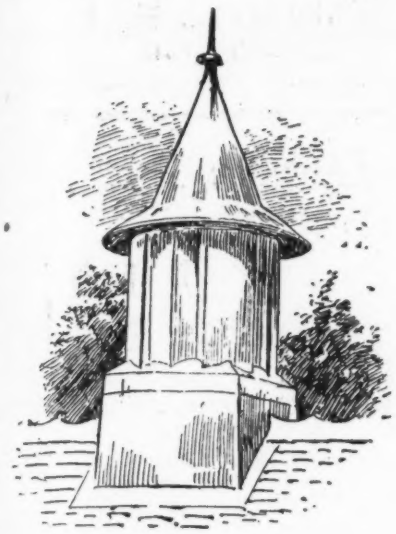
A new infirmary has been added to the Guardians' Institution at Redhill. The principal front faces the Common. The building consists of a central portion, in which are situated the smaller wards and administrative rooms, flanked at each end by the day-room projections and large wards. Inside a central hall and passage connects the east and west entrances with a long corridor, which communicates with the various rooms by running the whole length of the central portion of the building. In the centre on the ground floor is the duty kitchen, adjoining which are various rooms, such as doctors' consulting, chief nurse's office, dispensary, etc. The wards comprise four large rooms for sixteen beds each, and smaller rooms for three, two, and one bed respectively. There are two day-rooms with large bays, and on both floors large verandahs, from which escape staircases descend to the ground. The operating suite consists of three rooms. The floors of most of the rooms are polished pitch-pine. The building is heated and supplied with hot water and lit by electricity, and is constructed to resist fire. The builder was Mr. J. J. Pink, Merstham, Horley, and Kingswood. The systems of electric lighting, bells, and telephones have been intsalled by Messrs. Tamplin & Makovski, of Reigate; and the heating system by Messrs. G. H. Haden & Sons, of London. The architects were Messrs. T. R. and V. Hooper, of Redhill.

TRADE NEWS.

At the headquarters of the Commanding Officer at Ballygunj, India, the inner rooms for several years caused much annoyance on account of severe dampness. We hear that the trouble has now been overcome with a Pudloed cement rendering on the floors and walls.

The Chadderton new Smallpox Hospital, near Oldham, is being supplied with Shorland's double-fronted warm-air ventilating patent Manchester stoves with descending smoke flues by Messrs. E. H. Shorland & Brother, Ltd., of Failsworth, Manchester.

Messrs. Robert Boyle & Son, of 64, Holborn Viaduct, have introduced a new air-pump ventilator which is claimed to be a great improvement on previous models. It is absolutely weather-proof in all circumstances, and free from the possibility of down draught.



The model (No. 175), which we illustrate, is made from the best quality close annealed galvanised-steel plates, and is being extensively used for war work. The price has been kept low in spite of the greater cost, in order to meet a large demand not only in this country but in those of our Allies.

Under the direction of Mr. W. Ralph Low, A.R.I.B.A., Boyle's latest patent air-pump ventilators have been applied to the Hoffmann Manufacturing Company's extension to their premises at Chelmsford.

TRADE CATALOGUE.

We have before us a copy of the first issue of "Floor Slab Reinforcement," a booklet issued in the interests of B.R.C. Fabric by the British Reinforced Concrete Engineering Company, Ltd., 1, Dickinson-street, Manchester. It is a neat and interesting little publication, containing useful matter on the subject of reinforced concrete, and is well illustrated. In addition to a long list of Government departments, railway companies, and many public bodies who are using B.R.C. Fabric, the pamphlet includes some notes on particular features in floor slab reinforcement by Mr. Richard Holt, architect, of Liverpool.

NEW COMPANIES.

THE undermentioned particulars of new companies recently registered are taken from the Daily Register compiled by Messrs. Jordan & Sons, Ltd., Company Registration Agents, Chancery-lane, W.C.:—

EASTON ESTATES, LTD. (143,755). Registered May 3. To purchase and traffic in land (including minerals) and buildings in Northumberland, Durham, and Yorkshire, to develop and turn same to account, to construct, etc., public works, places of amusement, pleasure grounds, etc. Nominal capital, £40,000 in 40,000 £1 shares.

LYNDIN PARTNERS, LTD. (143,768). Registered May 4. To carry on business of iron-founders, mechanical engineers, manufacturers of machinery, tool makers, brass founders, metal workers, builders, painters, metallurgists, gas makers, etc. Nominal capital, £1,000 in 1,000 £1 shares.

HARVEY & WHITEHOUSE, LTD. (143,852). Registered May 16. To carry on business of brass and general iron founders, casters in cast-iron and other metals, manufacturers of ventilators and other sanitary castings, iron, builders and general merchants. Nominal capital, £100 in 100 £1 shares.

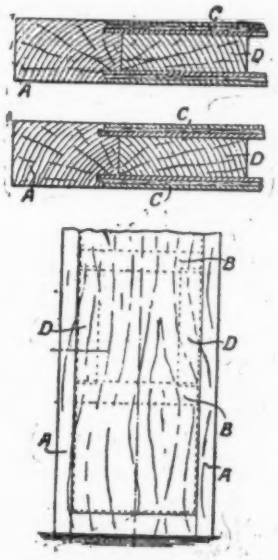
T. B. LEVER & SON, LTD. (143,885), 42, Cheverton-road, Upper Holloway, N. Registered May 19. To acquire and carry on the business of builders, decorators, and contractors, now carried on by T. B. Lever and L. Balston at the above address and elsewhere as T. B. Lever & Son, and to enter into an agreement, etc. Nominal capital, £1,000 in 1,000 £1 Ordinary shares.

EDMONDSON BROTHERS (MORECAMBE), LTD. (143,921), Green-street, Morecambe, Lancs. Registered May 24. To carry on business of builders, timber merchants, timber importers, general contractors, sawyers, masons, plasterers, slaters, plumbers, glaziers, etc. Nominal capital, £2,000 in 2,000 £1 shares.

SELECTED PATENT.

22,330 of 1914.—Alonzo Felton: Doors.

This relates to a door having its surface plain and unbroken to facilitate cleaning, and consists of a frame A recessed on the inner edges to receive panels C, which are formed of three-ply wood and lie flush with the frame members. The rabbeted recesses may be plain or undercut.



22,330 of 1914.

Preferably a single panel is used on each side and secured by glue and nails or screws, and the inner space may be packed with insulating material. To secure the lock in the door, a strengthening piece D may be fitted between the cross-rails B, or a cross-rail alone may be used.

LAW REPORTS.

OFFICIAL REFEREE'S COURT.

(Before Mr. POLLOCK.)

The £97,000 Claim:

Spencer, Santo, & Co. v. Commissioners of H.M. Works and Public Buildings.

AFTER a week's adjournment owing to the indisposition of Mr. R. N. Patten, the chief witness in support of the plaintiffs' case, the hearing of this action was resumed on Monday, May 29, when Mr. Patten was recalled and further cross-examined by Sir R. Acland, K.C., after having already been in the witness box for nine days.

The witness was closely questioned during the whole of Monday, Tuesday, and Wednesday by Sir Reginald upon the details of the work, particularly in regard to the stone, iron, and concrete work, the alterations in which, it was alleged, had been prejudicial to the plaintiffs. As to the concrete work, he was unable to say what the cost per foot run was, in fact, although it was considerably more than the contract price, owing to the alterations in the plans. The stonework had been enhanced in cost by the largely increased number of stones used and the increased number of joints to be made in consequence.

OFFICIAL REFEREE'S COURT.

(May 23.)

(Before Mr. MUIR MACKENZIE.)

Alleged Breach of Repairing Covenant:

Amos v. Stewart and Others.

IN this action the plaintiff, the lessee, claimed possession from the tenants of 32, Grosvenor-terrace (formerly Brunswick-terrace), Camberwell, on the ground that there had been a breach of the repairing covenants of the lease.

Mr. Charles Church appeared for the plaintiff and Mr. Martin Brooke for the defendants.

Mr. Stewart was the actual occupier of the premises, which were also occupied by three other tenants, each of whom rented a floor, and they were all joined as defendants. The plaintiff was the holder of a lease from the ground landlord, and the claim for possession was against all the occupiers and as against a Mrs. Wilson, who was a sub-lessee for damages.

In the defence it was claimed that there had been a substantial compliance with the covenants of the lease in accordance with the notices served upon the tenants.

The Referee said, as to the law on the subject, that he proposed to inquire whether the covenants of the lease had been complied with, not whether the notices served upon the defendants had been complied with.

Mr. Church said that witnesses would be called to prove that, having examined the lease and the premises, notices had been served upon the tenants to put the place in repair in accordance with the terms of the lease.

Mr. William Grellier, F.R.I.B.A., architect, of Queen Anne's-gate, stated that he examined the premises on behalf of the freeholder in April, 1915, and he prepared a schedule of dilapidations, having present in his mind the scope and operation of the covenant to repair as contained in the lease. Having prepared the schedule, he sent it to the plaintiff, and did not have anything more to do with the property until April last, when he again visited the premises, and found that the notices served had not been complied with.

The Official Referee said that the repairs appeared to be trivial, and it was scarcely to have been expected that a gentleman of the position of the witness in the profession would have been called upon to make a schedule of them.

Witness added that when he visited the premises in April, 1916, he found that the work had not been done in accordance with the notices.

A large number of witnesses were called on both sides, amongst them being, for the plaintiff, Mr. Gordon H. Grellier, P.A.S.I., and Mr. L. Falkingbridge Parker, M.S.A., and for the defendants Mr. W. A. Head, P.A.S.I., and Mr. C. W. Horser, F.S.A.

The Official Referee, in giving judgment, said that Mrs. Wilson acquired a sub-lease of the premises in 1914, at which time it was in a dirty and dilapidated condition. She immediately put it in the hands of the builder and spent some £90 upon it. But immediately afterwards a surveyor inspected it for the freeholder, and sent to him a schedule of dilapidations. The plaintiff, who was an estate agent, and manager for the freeholder, passed the schedule on to the underlessee. From the evidence it appeared that Mrs. Wilson had kept the house in sufficient repair to comply with the covenants of the lease, and he therefore found that there had been no breach of covenant which would entitle plaintiff to possession. The action to turn the defendants out would therefore be dismissed with costs.

List of Competitions, Contracts, etc.

For some contracts still open, but not included in this List, see previous issues. **Those with an asterisk (*) are advertised in this number:** Competitions, —; Contracts, iv., vi.; Public Appointments, xviii; Auction Sales, xx. Certain conditions beyond those given in the following information are imposed in some cases, such as: the advertisers do not bind themselves to accept the lowest or any tender; that a fair wages clause shall be observed; that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender unless stated to the contrary.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

*** It must be understood that the following paragraphs are printed as news, and not as advertisements, and that while every endeavour is made to ensure accuracy, we cannot be responsible for errors that *may* occur.

Contracts.

BUILDING AND PAINTING.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

JUNE 9.—**Pocklington.**—PAINTING, ETC.—Outside painting, etc., required at the Pocklington Grammar School, for the Governors. Specifications may be seen upon application to the Head Master on the school premises.

JUNE 10.—**Gildersome.**—REBUILDING.—For mason's, concreter's, joiner's, plumber's, plasterer's, slater's, and ironfounder's work in rebuilding Maiden Mill, Gildersome, for Messrs. A. & A. Brooke. Plans, etc., of Mr. T. A. Buttery, Licentiate R.I.B.A., architect and surveyor, Queen-street, Morley, and 1, Basinghall-square, Leeds.

JUNE 12.—**Barrow-in-Furness.**—SUB-STATION.—For the construction of a sub-station on Walney Island for the Electricity Committee. Mr. L. Hewlett, Town Clerk.

JUNE 12.—**Kilmarnock.**—PAINTING.—For painter work at the Art Galleries and Agricultural Hall, for the Corporation. Specification from the Subscriber. Also for painter work at Kirklandside Hospital. Specification from the Subscriber. Mr. R. O. Blackwood, Burgh Surveyor, Kilmarnock.

JUNE 13.—**Lisnaskea.**—COTTAGE.—The Directors of the Great Northern Railway Company (Ireland) invite tenders for the erection of a gatekeeper's cottage at Barnhill Level Crossing, near Lisnaskea. Drawing and specification at the Engineer's offices at Dublin and Belfast, and forms of tender from Mr. T. Morrison, Secretary, Secretary's Office, Amiens-street Terminus, Dublin. Deposit, £1 1s.

JUNE 13.—**Worksop.**—PAINTING.—For the painting of walls and ceilings of the rooms of the Old Infirmary, etc., at the Union Workhouse, Worksop, for the B.G. To view the premises, application to the Master at the Union Workhouse, Eastgate, Worksop.

JUNE 15.—**Hurdsfield.**—IMPROVEMENT OF STAIRCASE.—For the improvement of staircase at the Daybrook-street School, Hurdsfield. Quantities, etc., at Mr. Jabez Wright's office, architect, Macclesfield.

JUNE 15.—**Wellington (Salop).**—ALTERATIONS, ETC.—For alterations and building work to the main building and children's home, probationary wards, etc., at the Union, for the B.G. Plans, etc., of Messrs. Fleeming, Hickman, & Fleeming, architects, Market-square, Wellington.

JUNE 19.—**Lanark.**—PAINTING.—The District Committee invite tenders for painter work of the undernoted bridges, namely:—(1) Clyde Bridge, near Motherwell; (2) Bothwell Bridge; (3) Cambuslang Bridge; (4) Prior Bridge, between Blantyre and Cambuslang; (5) Holm Forge Bridge, between Bellshill and Motherwell. Copies of the specification, etc., of Mr. Robert Spittal, Road Surveyor, District Offices, Hamilton.

JUNE 19.—**Swindon.**—PAINTING, ETC.—For painting and decorating at several schools, for the Corporation. Specifications, etc., from Mr. W. Seaton, Education Office, Town Hall, Swindon.

* JUNE 28.—**Bedfordshire.**—PAINTING AND REPAIRS.—The Bedfordshire C.C. invite tenders for painting and repairs to schools.

* JUNE 29.—**Kensington.**—REDECORATION AND REPAIRS.—The Kensington Guardians invite tenders for decorative work and repairs to the infirmary.

JULY 7.—**Wilts.**—ALTERATIONS, ETC.—The General E.C. of the Wilts C.C. invite tenders for carrying out works in alterations, additions, repairs, and renovations, etc., at various Council schools during the summer vacation, 1916. Plans, etc., of Mr. J. George Powell, County Surveyor, County Surveyor's Office, Trowbridge.

JULY 10.—**Harwich.**—REFUSE DESTRUCTOR.—For the design and construction of a refuse destructor. Sketch plan of site and general conditions of Mr. F. Harold French, Borough Surveyor, Harwich. Deposit, £1 1s.

NO DATE.—**Nottingham.**—DEMOLITION OF PROPERTY.—The Housing Committee invite tenders for the pulling down and removal of several blocks of buildings on the Carter Gate area. Schedule of the City Engineer, Guildhall, Nottingham.

NO DATE.—**Thurles.**—RENOVATION.—For renovation of Confraternity Hall, Thurles. Specification, etc., from the architects, Messrs. W. H. Byrne & Son, 20, Suffolk-street, Dublin, or from Presbytery, Thurles.

FURNITURE, MATERIALS, etc.

JUNE 9.—**London.**—FURNITURE.—The Commissioners of H.M. Works, etc., invite tenders for the supply of furniture. Forms of tender, etc., of the Controller of Supplies, H.M. Office of Works, King Charles-street, Westminster, S.W.

JUNE 13.—**Manchester.**—MATERIALS.—Supply to the Manchester Corporation Gas Works of builders' materials during twelve months ending June 30, 1917. Forms of tender of Mr. Fredk. A Price, Superintendent, Gas Department, Town Hall, Manchester.

JUNE 15.—**West Bromwich.**—PAINTS, ETC.—Supply to the West Bromwich Union of paints, oils, etc. Estimates of quantities, etc., of Mr. A. H. Ward, Clerk, 22, Lombard-street, West Bromwich.

JUNE 17.—**Dublin.**—PAINTS, ETC.—Supply to the Directors of the Cavan and Leitrim Railway Company, Ltd., of oils, paints, varnishes, etc. Mr. R. R. Stewart, Secretary, 19 and 20, Fleet-street, Dublin.

* JUNE 17.—**Guy's Hospital, S.E.**—MATERIALS.—The House Committee of Guy's Hospital invite tenders for supply of certain materials.

JUNE 19.—**London.**—OILS, ETC.—Supply to the Asylums and Mental Deficiency Committee of the London County Council of oils, etc. Forms of tender of Mr. H. F. Keene, Clerk of the Asylums and Mental Deficiency Committee, 2, Savoy-hill, Victoria Embankment, W.C.

JUNE 19.—**Upton (near Chester).**—OILS AND COLOURS, ETC.—Supply to the Cheshire County Asylum, at Upton, near Chester, of oils and colours, building materials, etc. Forms of tender of the Steward of the Asylum.

JUNE 19.—**Wrexham.**—MATERIALS.—Supply to the Guardians of painters' and glaziers' materials. Forms of tender of Mr. T. J. Thomas, Master, Workhouse, Wrexham, and Mr. E. A. Knight, Superintendent of Scattered Homes, 23, Chester-street, Wrexham.

JUNE 22.—**London.**—ENGINEERS' OILS, ETC.—Supply to the B.G. of West Ham Union during the three months from July 1, 1916, of engineers' oils, etc. Forms of tender, etc., of Mr. Thomas Smith, Clerk, Board Room, Union-road, Leytonstone, N.E.

JULY 1.—**Golbourne.**—MATERIALS.—Supply to the U.D.C. of builders' materials. Forms of tender of Mr. H. Eckersley, Clerk to the Council, Council Offices, Worsley-street, Golbourne.

SEPTEMBER 6.—**Aberaman.**—OILS, PAINTS, ETC.—Supply to the Directors of the Powell Duffryn Steam Coal Company, Ltd., of grease and oils, paints, etc. Forms of tender, etc., of the Stores Manager, Aberaman Offices, near Aberdare.

ENGINEERING, IRON, AND STEEL.

JUNE 10.—**Keighley.**—ELECTRIC FITTINGS.—For the fitting up with electricity of the temporary war hospital buildings at Morton Banks. Specifications from Messrs. Moore & Crabtree, architects, Keighley.

JUNE 10.—**Matlock.**—TRAMWAY CABLE.—Supply to the U.D.C. of about 1967 lineal yds. of patent steel wire tramway cable, 3¼ in. in circumference, with manila core Particulars from Mr. John D. Evans, Tramway Manager, Town Hall, Matlock.

NO DATE.—**Cardiff.**—IRON BARS, ETC.—Supply to the Directors of the Cardiff Railway Company for the six months ending December 31, 1916, of iron bars, bolts, and angle iron, nails, etc. Forms of tender of the Stores Superintendent, Cardiff Railway, Bute Docks, Cardiff.

ROAD, SANITARY, AND WATER WORKS.

JUNE 14.—**Leeds.**—FLAGGING, ETC.—For the flagging, kerbing, and paving of the road on the south side of the new Tramways Offices in Swinegate, for the Leeds Corporation. Forms of tender, etc., at the Highways and Permanent Way Department, 155, Kirkstall-road, Leeds.

JUNE 15.—**Listowel.**—MAIN, ETC.—For the laying down of about 1,500 lineal yds. of 4-in. main and improvements of the intake works in connection with the water supply to the town of Ballybunion, Co. Kerry, for the Listowel R.D.C. Drawings, etc., of Mr. Brian E. F. Sheehy, M.Inst.C.E.I., 57, George-street, Limerick, or of Mr. Thomas O'Connell, Acting Clerk of the Council, Boardroom, Listowel. Bills of quantities from the Engineer. Deposit, £2 2s.

* JUNE 21.—**Erith.**—SEWERAGE WORKS.—The Erith U.D.C. invite tenders for sewerage work within the urban district.

JUNE 21.—**Erith.**—EXTENSION TO SWIMMING-BATH, ETC.—For carrying out an extension at the open-air swimming-bath in Walnut Tree-road, Erith, and the fixing of eight washing baths, and other incidental work, for the U.D.C. Plan, etc., from the Surveyor to the Council, Council Offices, Erith.

* JUNE 28.—**Bedfordshire.**—REPAIRING PLAYGROUNDS.—The Bedfordshire C.C. invite tenders for tar-painting and repairing school playgrounds.

NO DATE.—**Manchester.**—SANDSTONE, ETC.—Supply to Bradford Iron Works, Manchester, of about 2,500 tons of broken sandstone and siftings for concreting purposes. Forms of tender, etc., of Mr. Harry Burke, civil engineer, 6, St. Mary's-gate, Manchester.

Public Appointment.

* NO DATE.—ARCHITECT'S ASSISTANT.—The Swansea Borough Council invite applications for the above temporary post. Salary, £3 3s.

Auction Sales.

* JUNE 14.—**Hayes, Middlesex.**—Messrs. Fuller, Horsey, & Co. will sell by auction, on the premises, the machinery, plant, and stock of a motor lorry and wagon builder.

* JUNE 20.—**Deptford.**—Messrs. Jenkins, Sons, & Webster will sell by auction, on the premises, the machinery, plant, and freehold premises of a builder and contractor.

* JUNE 20.—**St. John-street-road.**—Mr. F. G. Bowen will sell by auction, on the premises, the stock and plant of a builder and contractor.

[Those with an asterisk (*) are advertised in this issue.]

PRICES CURRENT OF MATERIALS.

[Owing to the exceptional circumstances which prevail at the present time, prices of materials should be confirmed by inquiry.]

Wood prices have been advanced and several prices revised.—ED.

*** Our aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the highest or lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

BRICKS, &c.

Per 1000 Alongside, in River Thames.	£ s. d.
Best Stocks	2 0 0
Picked Stocks for Facings	2 12 0

Per 1000, Delivered at Railway Depôt, London.

	£ s. d.		£ s. d.
Flettons	1 10 0	Best Blue Pressed Staffordshire	5 0 0
Best Fareham Red	3 12 0	Do. Bullnose	5 5 0
Best Red Pressed Ruabon Facing	5 5 0	Best Stourbridge Fire Bricks	4 15 0

GLAZED BRICKS—

Best White, Ivory, and Salt Glazed Stretchers	13 7 6	D'ble Str'tch'rs	18 17 6
		Double Headers	15 17 6
		One Side and two Ends	19 17 6
Headers	12 17 6	Two Sides and one End	20 17 6
Quoins, Bullnose and 4½ in. Flats	16 17 6	Splays and Squints	18 7 6

Second Quality £1 per 1,000 less than best.

	s. d.	
Thames Ballast	8 3	per yard, delivered.
Thames and Pit Sand	8 6	" " "
Best Washed Sand	9 6	" " "

Per ton, delivered.

	£ s. d.	£ s. d.
Best Portland Cement	2 5 0	2 8 0

Do. £2 1s. alongside in 80-ton lots.
Ferrocrete 2s. 6d. per ton extra on above.
Best Ground Blue Lias Lime .. 1 5 6 at rly. depôt.
NOTE.—The cement or lime is exclusive of the ordinary charge for sacks.
Grey Stone Lime ..... 18s. 0d. per yard delivered.
Stourbridge Fireclay in s'cks 30s. 0d. per ton at rly. dpt.

STONE.

	s. d.
BATH STONE—delivered in railway trucks at Westbourne Park, Paddington, G.W.R., or South Lambeth, G.W.R., per ft. cube	1 7
Do. do. delivered in railway trucks at Nine Elms, L. & S.W.R., per ft. cube	1 8½
Do. do. delivered on road waggons, at Nine Elms Depôt	1 9½

PORTLAND STONE—

Brown Whitbed, in random blocks of 20 ft. average, delivered in railway trucks at Westbourne Park, G.W.R., South Lambeth, G.W.R., or Nine Elms, or L. & S.W.R., per ft. cube	2 5½
Do. do. delivered in railway waggons at Pimlico Wharf or Nine Elms Depôt, per ft. cube	2 6½

White basebed, 2d. per ft. cube extra.

RANDOM BLOCKS—Per Ft. Cube, delivered at Rly. Depôt.

	s. d.		s. d.
Ancaster in blocks	2 0	Closeburn Red Freestone	2 2
Beer in blocks	1 7½		
Grinshill in blocks	2 4	Red and White Mansfield Random block	2 9
Darley Dale in blocks	2 5	Yellow Magnesian Limestone do. do.	3 3

YORK STONE—*Robin Hood Quality.*

Per Ft. Cube, Delivered at Railway Depôt.	s. d.
Scappled random blocks	3 4

Per Ft. Super., Delivered at Railway Depôt.

6 in. sawn two sides landings to sizes (under 40 ft. super.)	2 5
6 in. rubbed two sides, ditto	2 8
3 in. sawn two sides slabs (random sizes)	1 0½
2 in. to 2½ in. sawn one side slabs (random sizes)	0 8½
1½ in. to 2 in. ditto, ditto	0 6½

HARD YORK—

Per Ft. Cube, Delivered at Railway Depôt.	
Scappled random blocks	3 0

Per Ft. Super., Delivered at Railway Depôt.

6 in. sawn two sides landing to sizes (under 40 ft. super.)	2 3
6 in. rubbed two sides ditto	2 7
3 in. sawn two sides slabs (random sizes)	1 0
2 in. self-faced random flags	0 5

TILES.

	Per 1,000 f.o.r. London. £ s. d.
Best machine-made tiles or hand-made sand-faced tiles from either Broseley or Staffordshire district	2 12 6
Ornamental ditto	2 15 0
Hip and valley tiles (per dozen)	0 5 6

SLATES.

	Per 1,000 of 1,200 f.o.r. London. £ s. d.
Best Blue Bangor Slates, 20 by 10	11 16 0
First quality " "	11 10 0
" " 16 by 8	5 15 0
Best Blue Portmadoc, 20 by 10	11 13 6
First quality " "	11 3 6
" " 16 by 8	5 15 0

WOOD.

BEST BUILDING REDWOOD. Imported sizes.	Nominal. Per standard. £ s. d.	£ s. d.
Deals: 4 in. by 12 in., 4 in. by 11 in., 3 in. by 11 in., 4 in. by 9 in., and 2 in. by 11 in.	35 0 0 ..	36 0 0
3 in. by 9 in., 2½ in. by 9 in., and 2 in. by 9 in.	34 0 0 ..	35 0 0

WOOD (*Continued*).

BEST BUILDING REDWOOD.	Per standard. £ s. d.	£ s. d.
Battens: 2 in., 2½ in., and 3 in. by 8 in. ; 2 in., 2½ in., and 3 in. by 7 in. ; 2 in., 2½ in., and 3 in. by 6 in.	33 0 0 ..	34 0 0
Scantlings: 2 in. by 3 in., 2 in. by 3½ in., 2 in. by 4 in., 2 in. by 4½ in. ; 3 in. by 4 in., and 3 in. by 4½ in.		
Boards: 1 in., 1¼ in., and 1½ in. by 6 in. and 7 in.	0 10 0	more than
¾ in.	1 0 0	battens.
Seconds	1 0 0	less than best
Best Middling Dantzic and Memel Fir Timber Logs (average specification)	Per load of 50 ft. cube. 10 0 0 ..	—
Stocks very limited.		
Sawn pitch pine logs (about 35 cu. ft. average)	Per load. 13 0 0 ..	14 0 0
Do. 6 in. to 10 in.	11 0 0 ..	12 0 0
	Per standard.	
Best Pitch Pine Deals	35 0 0 ..	36 0 0
Under 2 in. thick	0 10 0	extra.

JOINERS' WOOD.

White Sea First Quality Red: 4 in. by 11 in.	40 0 0 ..	41 0 0
3 in. by 11 in., and 2 in. by 11 in.	39 0 0 ..	40 0 0
4 in. by 9 in.	38 0 0 ..	39 0 0
3 in. by 9 in., and 2½ in. by 9 in.	37 0 0 ..	38 0 0
9 in. by 11 in. boards	1 0 0	more than deals.
7 in. and 8 in. battens	34 0 0 ..	35 0 0
7 in. and 8 in. boards	1 0 0	more than battens.
Archangel White Deals—		
Best 3 in. by 9 in. and 10 in. and 11 in.	37 0 0 ..	38 0 0
Seconds, do.	2 0 0	less than best.
U.S. Battens	31 0 0 ..	33 0 0
Prepared Floorings and Matchings, Red and equal—	Seconds Swedish	
1¼ in. by 6½ in. planed and shot	Per square actual. 1 16 0 ..	1 19 0
1¼ in. by 6½ in. planed and matched	1 16 6 ..	1 19 6
1 in. by 6½ in. planed and shot	1 9 0 ..	1 12 0
1 in. by 6½ in. planed and matched	1 9 6 ..	1 12 6
¾ in. by 6½ in. planed, matched, and beaded, or V jointed	1 4 0 ..	1 6 0
1 in. by 6½ in. do.	1 10 6 ..	1 12 0
Columbian or Oregon Pine, best quality	Per standard. 42 0 0 ..	44 0 0
Yellow Pine—First, regular sizes	57 0 0	upwards.
Oddments	39 0 0	"
Seconds, regular sizes	43 10 0	"
Oddments	37 10 0	"
Kauri Pine—Planks per ft. cube	0 8 0 ..	—
Wainscot Oak Logs, per ft. cube	0 10 6 ..	0 12 6
Dry Wainscot Oak, per ft. super, as inch.	0 1 0 ..	0 1 3
¾ in. do. do.	0 0 10 ..	0 1 0
Dry Mahogany — Honduras, Tabasco, per ft. super, as inch	0 1 0 ..	0 1 4
Cuba Mahogany	0 1 6 ..	0 2 6
Dry Walnut, American, per ft. super, as inch	0 1 0 ..	0 1 3
French, "Italian," Walnut	0 1 0 ..	0 1 6
Teak, per load (Rangoon or Moulmein)	28 0 0 ..	34 0 0
Do. do. (Java)	25 0 0 ..	27 0 0
American Whitewood planks, per ft. cube	0 6 6 ..	0 7 6

METALS.

JOISTS, GIRDERS, &c.

	In London or Railway Vans, £ s. d.	delivered per ton. £ s. d.
Rolled Steel Joists, ordinary sections, basis price	20 0 0 ..	21 0 0
Plain Compound Girders, ordinary sections	22 0 0 ..	23 0 0
Plain Compound Stanchions	23 0 0 ..	24 10 0
Angles, Tees, and Channels, ordinary sections	20 10 0 ..	21 10 0
Flitch Plates	20 10 0 ..	21 10 0
Cast Iron Columns and Stanchions, plain ordinary patterns	13 10 0 ..	14 0 0

(Turning extra.)

WROUGHT-IRON TUBES AND FITTINGS—

Discounts off Association Prices.

	Tubes. Per Cent.	Fittings. Per Cent.
Gas at works	55	57½
Water' "	50	55
Steam "	45	52
Galvanised gas at works	30	47½
" water "	23½	45
" steam "	17½	42½

Ex London 2½ per cent. less than above.

L.C.C. SOIL PIPE— London Prices.

	Pipes Coated. s. d.	Bends. s. d.	Branches. s. d.
2 in.	2 4	1 8	2 0
2½ in.	2 9	1 10	2 6
3 in.	3 5½	2 0	3 0
3½ in.	3 9½	2 6	3 6
4 in.	4 1½	2 10	4 0

RAIN-WATER PIPES, ETC.— London Prices.

	Pipe. s. d.	Bends. s. d.	Branches. s. d.
2 in.	1 8½	0 11	1 3
2½ in.	1 10½	1 1	1 6
3 in.	2 2½	1 4	2 0
3½ in.	2 8½	1 7	2 4
4 in.	2 10½	1 11	2 10

METALS (*Continued*).

L.C.C. DRAIN PIPES— London Prices.

4 in., 4s. 1d. .. 5 in., 4s. 10d. .. 6 in., 5s. 11d

Per ton, in London.

IRON—	£ s. d.	£ s. d.
Common Bars	16 0 0 ..	—
Staffordshire Crown Bars, good merchant quality	16 0 0 ..	17 0
Staffordshire "Marked Bars"	17 10 0 ..	18 0
Mild Steel Bars	18 0 0 ..	18 10

Steel Bars, Ferro-Concrete quality, £18 basis price.

Hoop Iron, basis price	20 0 0 ..	20 10
" " Galvanised	33 0 0 ..	—

(* And upwards, according to size and gauge.)

Sheet Iron Black—		
Ordinary sizes to 20 g.	20 10 0 ..	21 0 0
" " 24 g.	21 10 0 ..	22 0 0
" " 26 g.	22 10 0 ..	23 0 0

Sheet Iron, Galvanised flat, ordinary quality—

Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 20 g.	31 0 0 ..	—
Ordinary sizes to 22 g. and 24 g.	31 10 0 ..	—
Ordinary sizes to 26 g.	34 0 0 ..	—

Sheet Iron, Galvanised, flat, best quality—

Ordinary sizes to 20 g.	33 0 0 ..	—
" " 22 g. and 24 g.	33 10 0 ..	—
Ordinary sizes to 26 g.	36 10 0 ..	—

Galvanised Corrugated Sheets—

Ordinary sizes, 6 ft. to 8 ft. 20 g.	29 0 0 ..	—
Ordinary sizes, 22 g. & 24 g.	29 10 0 ..	—
Ordinary sizes, 26 g	30 0 0 ..	—
Best Soft Steel Sheets, 6 ft. by 2 ft. to 3 ft. to 20 g. and thicker	23 10 0 ..	—
Best Soft Steel Sheets, 22 g. and 24 g.	23 15 0 ..	—
Best Soft Steel Sheets, 26 g.	25 10 0 ..	—
Cut Nails, 3 in. to 6 in.	24 0 0 ..	25 0 0

(Under 3 in., usual trade extras.)

LEAD, &c.

Delivered in London.

	£ s. d.	
LEAD—Sheet, English, 4 lb. and up	40 10 0 ..	—
Pipe in coils	41 0 0 ..	—
Soil pipe	44 0 0 ..	—
Compo pipe	44 0 0 ..	—

NOTE—Country delivery 20s. per ton extra; lots under 5 cwt. 1s. per cwt. extra.

COPPER—			
Strong Sheet	per lb.	0 1 6	.. —
Thin "	"	0 1 8	.. —
Copper nails	"	0 1 6	.. —
Copper wire	"	0 1 8	.. —
BRASS—			
Strong Sheet	"	0 1 6	.. —
Thin "	"	0 1 8	.. —
TIN—English Ingots	"	0 1 11	.. —
SOLDER—Plumbers'	"	0 0 11	.. —
Tinmen's	"	0 1 2	.. —
Blowpipe	"	0 1 4	.. —

GLASS.

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES AND IN SQUARES IN ORDINARY SIZES.

	Per Ft.		Per Ft.
15 oz. thirds	5½d.	26 oz. fourths	6½d.
" fourths	4½d.	32 oz. thirds	8½d.
21 oz. thirds	6½d.	" fourths	7½d.
" fourths	5½d.	Fluted Sheet, 15 oz.	5½d.
26 oz. thirds	7d.	" 21 oz.	6½d.

ENGLISH ROLLED PLATE IN CRATES OF STOCK SIZES.

	Per Ft.
⅛ Rolled plate	4d.
⅜ Rough rolled and rough cast plate	4½d.
½ Rough rolled and rough cast plate	4½d.
Figured Rolled, Oxford Rolled, Oceanic, Arctic Muffled, and Rolled Cathedral white	5d.
Ditto, tinted	6½d.
Rolled Sheet	4½d.

OILS, &c.

		£ s. d.
Raw Linseed Oil in pipes	per gallon	0 3 2
" " " in barrels	"	0 3 3
" " " in drums	"	0 3 6
Boiled " " in barrels	"	0 3 5
" " " in drums	"	0 3 9
Turpentine in barrels	"	0 3 8
" in drums	"	0 3 11
Genuine Ground English White Lead, per ton (In not less than 5 cwt. casks.)		58 0 0
Red Lead, Dry	per ton	58 0 0
Best Linseed Oil Putty	per cwt.	0 12 0
Stockholm Tar	per barrel	4 5 0
Filocol	per cwt.	0 9 6

GENUINE WHITE LEAD PAINT—

"Blackfriars," "Nine Elms," "Park," and other best brands (in 14 lb. tins) not less than 5 cwt. lots	per ton delivered 70 0 0

VARNISHES, &c.

	Per gallon. £ s. d.
Fine Pale Oak Varnish	0 8 0
Pale Copal Oak	0 10 6
Superfine Pale Elastic Oak	0 12 6
Fine Extra Hard Church Oak	0 10 0
Superfine Hard-drying Oak, for seats of Churches	0 14 6
Fine Elastic Carriage	0 12 9
Superfine Pale Elastic Carriage	0 16 0
Fine Pale Maple	0 10 0
Finest Pale Durable Copal	0 18 6
Extra Pale French Oil	1 1 0
Eggshell Flatting Varnish	0 18 0
White Pale Enamel	1 4 0
Extra Pale Paper	0 12 0
Best Japan Gold Size	0 10 0
Best Black Japan	0 16 0
Oak and Mahogany Stain	0 9 0
Brunswick Black	0 8 0
Berlin Black	0 16 0
Knotting	0 10 0
French and Brush Polish	0 10 0

PATENTS.

APPLICATIONS PUBLISHED.*

10,849 of 1914.—Reginald John Webber Parsons: Method of jointing as applied to the construction of reinforced concrete floors, walls, roofs, partitions, divisions, and all similar structures.

3,560 of 1915.—Henry Pearson and John Renfrew: Adjustable hinges.

6,307 of 1915.—George Powis: Slabs or blocks for ceilings, walls, and wall coverings, or plating.

6,319 of 1915.—John Alfred Davenport: Reinforced concrete structures and reinforced concrete construction.

7,079 of 1915.—Antoine Dujardin, Leon Lootens, and August Verraert: Concrete structures.

7,306 of 1915.—John Lowry: Concrete fence and like posts.

7,342 of 1915.—Herbert George Smith: Method of and apparatus for coating cornice poles and other elongated bodies.

7,393 of 1915.—Hugo Van de Loo and Erven de Gruyter (firm of): Apparatus for adding a disinfecting liquid to the flushing water for wash-out closets.

7,547 of 1915.—George William Payne: Apparatus for supporting stretchers on vehicles used in mines.

7,577 of 1915.—John Shanks: Water closets.

8,902 of 1915.—Alexandre Hanssens: Apparatus for forming boreholes in soft and loose sand or other loose and soft strata.

9,063 of 1915.—Matthew Coleman: Locking and unlocking devices for railway carriage windows.

9,681 of 1915.—Alexander Peacock and Arthur Peacock: Woodscrews.

9,966 of 1915.—Hugo Duncker and Mathias Edvin Udd: Concrete buildings in which filling materials are used.

10,271 of 1915.—George Edgar Hill Woods: Method of and apparatus for dressing stone.

11,310 of 1915.—Albert Matthews: Seats.

13,748 of 1915.—Charles Brent: Fire-extinguishing apparatus.

13,802 of 1915.—Sorabji Muncherji Rutnagur: Means for ventilating buildings.

13,833 of 1915.—Frederick Pollard: Bench stop for joiners' or wood-workers' benches.

13,896 of 1915.—Emil Kanturek: Pay plate or table.

14,702 of 1915.—Alexander Milne and William Henry Theed: Method of and means for locking nuts to bolts.

14,934 of 1915.—George Durham and Charles William McQuirk: Apparatus for cleaning surfaces.

15,979 of 1915.—Charles Needham Forrest and Barber Asphalt Paving Company: Refining asphalt and the manufacture of asphalt cements from natural asphalts.

16,111 of 1915.—Justin Prétot and Jules Louis Breton: Apparatus for cutting barbed wire and the like.

16,460 of 1915.—Clayton & Shuttleworth, Ltd., Philip Warwick Robson and Francis James Bretherton: Combined filter and plug cock.

* All these applications are in the stage in which opposition to the grant of Patents upon them can be made.

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Communications for insertion under this heading should be addressed to "The Editor," and must reach us *not later than* 2 *p.m. on Wednesday.*

* Denotes *accepted.* † Denotes *provisionally accepted.*

LONDON.—For creosoting wood-paving blocks for a period of six months, for the Westminster City Council:—

Alexander Bruce & Co.,‡ land *ex* barge, creosote with not less than 10 lb. per cubic ft., and reload into barge, 25s. per load of 50 cubic ft.; lighterage of creosoted blocks to riverside wharf, below Chelsea Bridge, 2s. 9d. per load, minimum 80-ton barge loads, demurrage 20s. per day; creosoting under the Ruping process, 20s. per load.

‡ Recommended for acceptance.

LONDON.—Accepted by the Westminster City Council for the supply of wood blocks for jobbing repairs:—

Arnold & Sons, about 5,000 3-in. by 5-in. by 7-in. and 3-in. by 6-in. by 7-in. blocks at £10 10s. per 1,000, f.o.r., £52 10s.; cartage from railway terminus at about 6s. 6d. per 1,000, about £1 12s. 6d. Approximate cost, £54 2s. 6d.

Lauder & Co., 40,000 3-in. by 5-in. by 9-in. blocks at £18 17s. 6d. per 1,000, f.o.r., £755; cartage from railway terminus at about 6s. 6d. per 1,000, about £13. Approximate cost, £768.

Approximate total cost, £822 2s. 6d.

STOCKPORT.—For the conversion of offices at Adswood sidings into horsekeeper's apartments, for the Stockport Industrial and Equitable Co-operative Society, Ltd. Messrs. Wrathmell & Blackshaw, architects, St. Peter's-square:—

C. Walker	£240
W. B. Beattie	219
Daul, Eadie, & Co., Ltd.*	200

[All of Stockport.]

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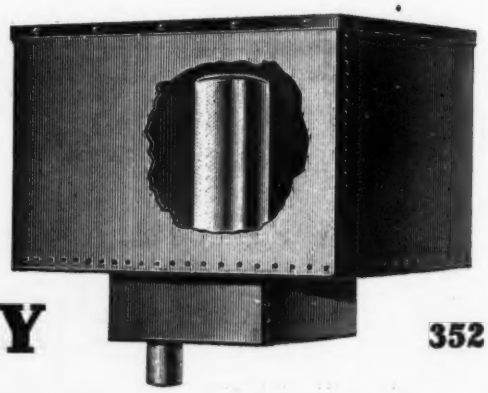

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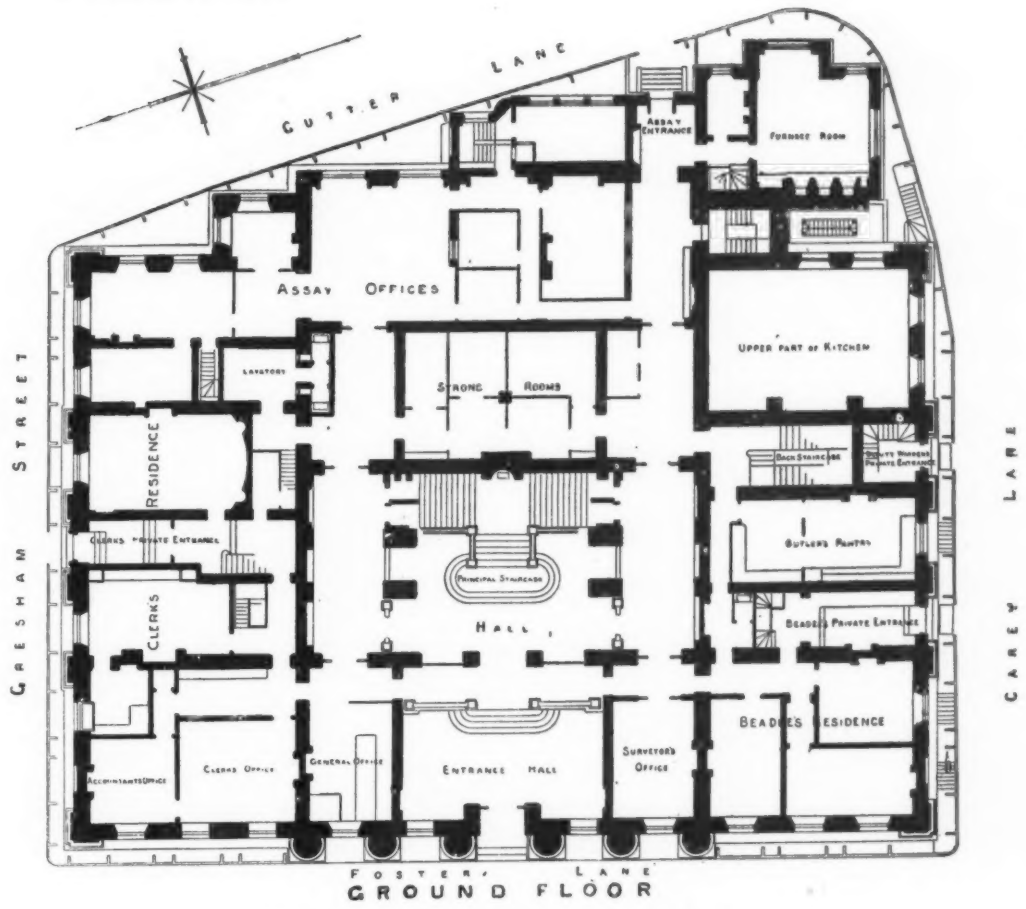
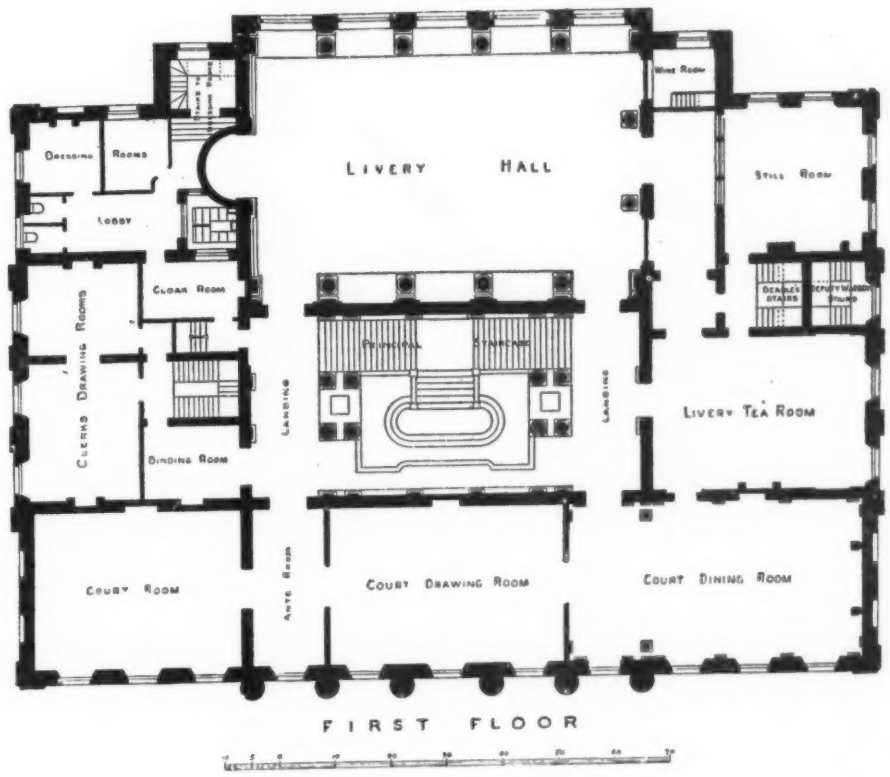
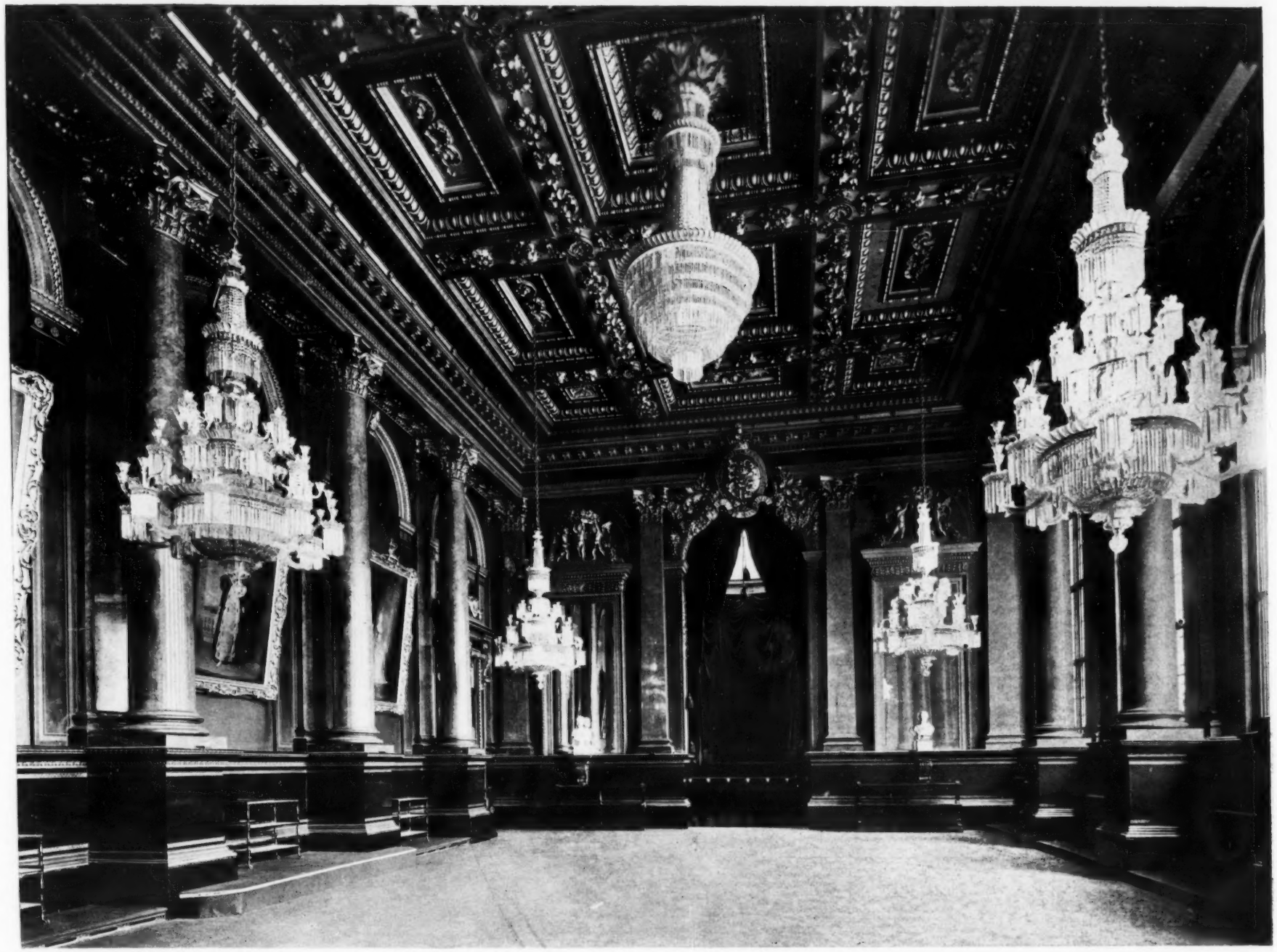




GOLDSMITHS' HALL.

GOLDSMITHS' HALL: THE STAIRCASE.

GOLDSMITHS' HALL: THE STAIRCASE.



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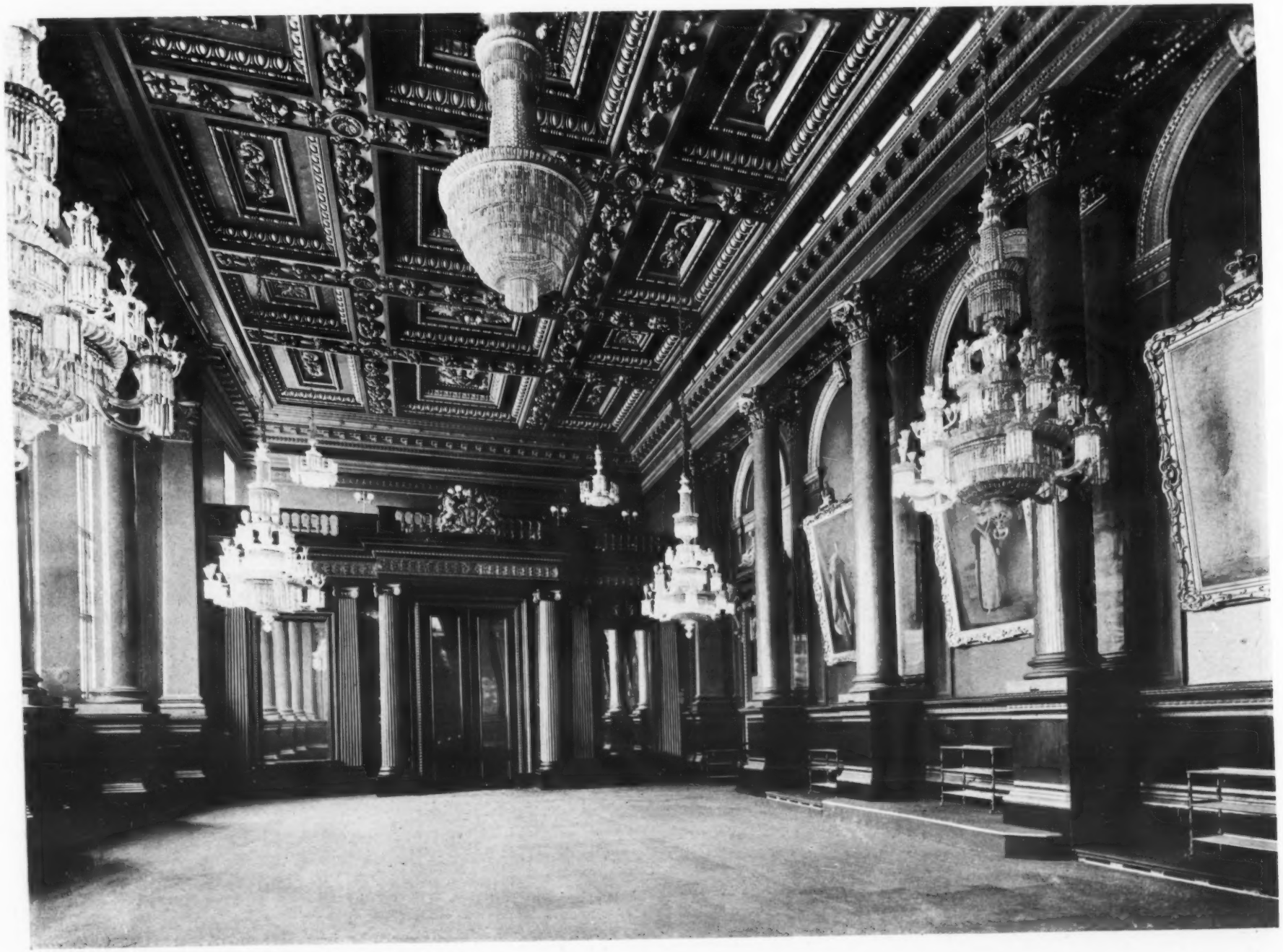

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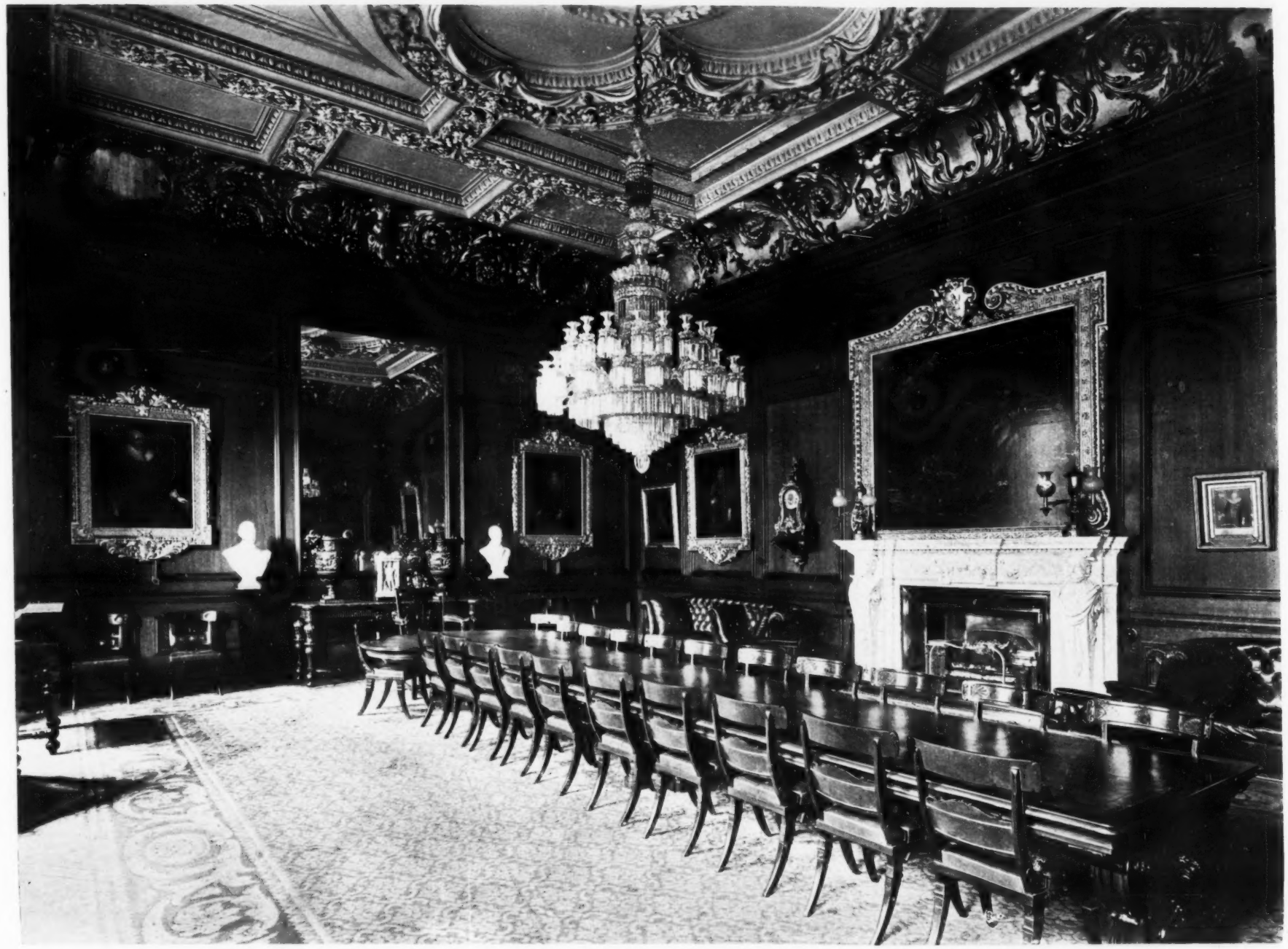

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GOLDSMITHS' HALL: THE COURT DINING-ROOM.

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